CME Group

AutoCert + iLink
User Manual

4/14/14

CME Group

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Please submit user experience [feedback](#) about this help system.

Getting Started

The AutoCert+ tool is an automated testing tool for validating application functionality. It provides an easy-to-use web interface for walking through CME Group certification scenarios.

To facilitate the process of connecting a customer application to CME Globex, CME Group provides a dedicated certification environment to allow customers to test their systems before they complete certification.

The following apply to each iLink test case:

- The book is clear at the beginning of each test.
- AutoCert+ selects dummy instruments based on the product type selected from the **Select a Contract** field drop-down list.
- After the instrument is selected, the instrument is locked until the test is completed.
- If you submit an incorrect response to any question in a test case, you must repeat the test case from the beginning.
- For partial or complete fills, assume CME Group creates the appropriate orders in the book.
- For all inbound messages, tag 60-TransactTime must include milliseconds in the following format: HH:MM:SS.sss, such as 10:00:29.714.
- AutoCert+ validates tag 167-SecurityType on inbound messages where it is required.
- AutoCert+ requires that tag 1-Account be included in all Order Cancel Request Tag 35-MsgType=F messages.

▷ **To run and navigate AutoCert+:**

1. [Log into](#) the automated certification tool.
2. Review general AutoCert+ test suite [navigation](#) and [general interview](#) information.
3. Complete the [Interview](#) for this test suite.
4. Complete applicable test cases.
5. Complete the certification process from the [Post Certification](#) tab.

What's New

The list below illustrates the updates made to the AutoCert+ iLink Help system.

Date	Author	Topic	Description
4/14/14	JJ	All	Updated links and edited to meet Help standards
2/05/14		Mass Order Status Tests	Update section
1/27/14		Mass Order Status Tests	Added entire section.
8/28/13		All	Condensed all chapters.
6/28/13		Mass Order Cancel Tests	Added new topics.
5/8/13		Beginning of Week Logon Logon Process Mid Week	Added new topics.
9/11/12		Getting Started	Enhanced Getting Started section.
4/2/12		Minimum Quantity	Updated Minimum Quantity test steps.
6/1/11			Miscellaneous updates.
2/23/11			Initial release.

The Interview

The interview consists of a series of questions about your trading application. Based on your responses, certain tests are required and others are optional.

▷ **To complete the interview process:**

Answer each question and click the" **Complete**" button when finished.

1. For the first question, "What types of Instruments will your system support?" note the following:

   - If you select both "**Futures**" and "**Options**," then future dummy contracts are used for all test cases (futures override options).

   - If you select "**Futures**" or both "**Futures**" and "**Options**," all order types are available for a selection.

   - If you select only "**Options**," then only "**Market Limit**" is available for the order type.

2. For the question, "What types of products will your system support?", multiple options may be selected, including: "**Interest Rate**" (if selected, an interest rate dummy instrument should be assigned), "**Energy**" (if selected, and "Interest Rate" is not selected, an energy dummy instrument should be assigned), "**Equity**," "**FX**," and/or "**Commodity**."

3. For the question, "Will your system support Spread instruments?", if you answered "**Yes**," then the Spread Vanilla Order and Spread Complete Order tests are mandatory.

4. For the question, "Which order types will your system support?", multiple options may be selected. Note the following:

- "**Limit Order**:" This option is always selected and cannot be changed.

- "**Market Limit Order**:" If this option is selected, the Market Limit Order test is mandatory.

- "**Market Order**:" This option is not available (grayed out) if **Options** was selected in question 1. If this option is selected, the Market Order test is mandatory.

- "**Stop Limit Order**:" This option is not available (grayed out) if **Options** was selected in question 1. If this option is selected, the Stop Limit Order test is mandatory.

- "**Stop Order**:" This option is not available (grayed out) if **Options** was selected in question 1. If this option is selected, the Stop Order test is mandatory.

6. For the question, "What order qualifiers will your system support?, multiple options may be selected:

   - "**Day Order**."

   - "**Good Till Cancel (GTC) Order**:" If this option is selected, then steps 1 - 3 in the Manage Order Life Time test is mandatory.

   - "**Good Till Date (GTD) Order**:" If this option is selected, then steps 4 - 6 in the Manage Order Life Time test is mandatory.

   - "**Fill and Kill (FAK) Order**:" If this option is selected, then steps 7 - 16 in the Manage Order Life Time test is mandatory.

7. For the question, "Will your system support Cancel Replace with In Flight Mitigation (IFM) functionality?", if you answered "**Yes**," then the Cancel Replace with In Flight Mitigation test is mandatory.

8. For the question, "Will your system support Give Up Orders?", if you answered "**Yes**," then the Give Up Order test is mandatory.

9. For the question, "Will your system support Minimum Quantity functionality?", if you answered "**Yes**," then the Manage Minimum Quantity test is mandatory.

10. For the question, "Will your system support Maximum Quantity Display functionality?", if you answered "**Yes**," then the Maximum Quantity Display and Maximum Quantity Display with Cancel-Replace tests are mandatory.

11. For the question, "Will your system support Route-Through functionality?", if you answered "**Yes**," then the Manage Route-Through test is mandatory.

12. For the question, "Will your system support Quote Request functionality?", if you answered "**Yes**," then the Quote Request test is mandatory.

13. Answer the question, "How will your system respond to Resend Requests for order messages?"

14. For the question,, "Will your system support Cross Order functionality for Equity contracts?", if you answered "**Yes**," then a Request for Cross Message (Equity)test is mandatory.

15. For the question, "Will your system support Cross Order functionality for contracts belonging to a product complex other than Equity?", if you answered "**Yes**," then a Request for Cross Message (non-Equity) test is mandatory.

16. For the question, "Will your system support Cross Order Cancel functionality?", if you answered "**Yes**," then a Cross Message test is mandatory.

17. For the question, "Will your system support Cross Order Reject (dual execution report rejects) functionality?", if you answered "**Yes**," then a Request for Cross Rejection test is mandatory.

18. For the question, "Will your system support Fault Tolerance?", if you answered "**Yes**," then a Fault Tolerance test is mandatory.

19. For the question, "How will your system send orders?", multiple options may be selected including, Manual, ATS, and/or Semi Automated.

Order Type Tests

Order Type tests include the following:
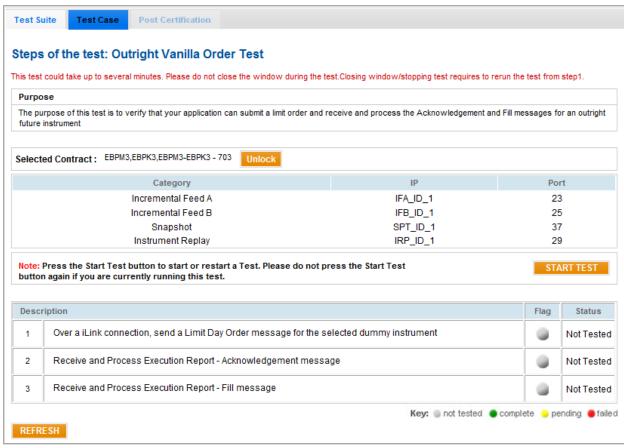
- Outright Vanilla Order

- Outright Complete Order

- Market Limit Order

- Market Order

- Stop Limit Order

- Stop Order

- Give Up Order

Outright Vanilla Order

This test verifies that you can submit a Limit order and receive and process the Execution Reports - Acknowledgment and Fill messages for an outright vanilla order. The following rules apply regarding futures and options instruments:

- If you selected **Futures** in the Interview, a futures instrument should be used.

- If you selected **Options** in the Interview, an options instrument should be used.

- If you selected **Futures** and **Options** in the Interview, a futures instrument should be used.

Note: This test is mandatory.
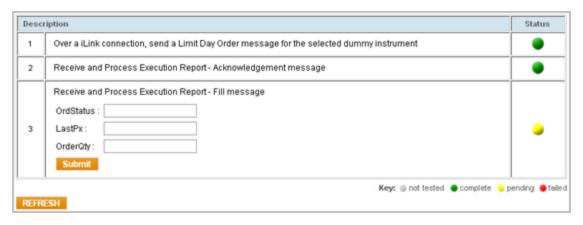
▷ **To run an outright vanilla order test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.
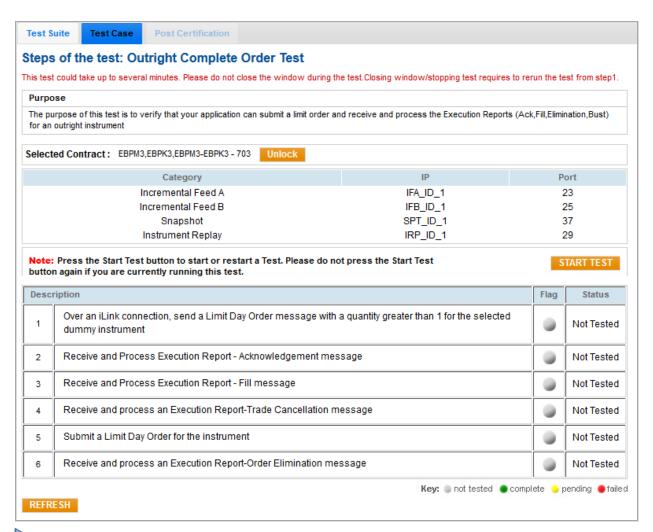
3. Submit a Limit Day order [New Order (tag 35-MsgType=D)] for the instrument over an iLink connection.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message correctly.

5. Enter the following information from the Execution Report - Fill message:

   - tag 39-OrdStatus. (partial or complete fill)

   - tag 31-LastPx (price)

   - tag 38-OrderQty

Outright Complete Order

This test verifies that you can submit a Limit order and receive and process Execution Reports for Acknowledgment, Fill, Cancellation and Order Elimination for an outright instrument.

Note: This test is mandatory.

▷ **To run an outright complete order test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit Day order with a quantity greater than one for the instrument.

4. Select "**Yes**" or "**No**" to Indicate whether or not your system processed the following messages:

   - Execution Report - Confirmation/Acknowledgment

   - Execution Report - Fill

   - Execution Report - Trade Cancellation

4. Submit a Limit Day order for any quantity on this instrument.

5. Select "**Yes**" or "**No**" to Indicate whether or not your system processed the Execution Report - Order Elimination message.

Market Limit Order

This test verifies that you can submit and cancel a Market Limit order for an outright instrument.

 Note: This test is mandatory if you selected market "**Limit Order**" in response to the Interview question, "Which order types does your system support?"

▷ **To run a market-limit order test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Market-Limit Day order message with a quantity greater than 1 for the instrument.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Confirmation/Acknowledgment message correctly.

5. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Fill Notice message.

6. Submit an order to cancel the remaining quantity left on the original order submitted.

7. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Order Cancellation message.

Market Order

This test verifies that you can submit and cancel a Market order for an outright instrument.

Note: This test is mandatory if you selected "**Market Order**" in response to the Interview question, "Which order types does your system support?"

Test Suite	Test Case	Post Certification

Steps of the test: Market Order Test

This test could take up to several minutes. Please do not close the window during the test.Closing window/stopping test requires to rerun the test from step1.

Purpose

The purpose of this test is to verify the client system can submit and cancel a market order and receive and process the Acknowledgement and Fill messages for an outright instrument

Selected Contract : EBPM3,EBPK3,EBPM3–EBPK3 – 703 [Unlock]

Category	IP	Port
Incremental Feed A	IFA_ID_1	23
Incremental Feed B	IFB_ID_1	25
Snapshot	SPT_ID_1	37
Instrument Replay	IRP_ID_1	29

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.   [START TEST]

	Description	Flag	Status
1	Over an iLink connection, submit Market Day Order message with a quantity greater than 10	🟢	Complete
2	Receive and Process Execution Report - Acknowledgement message	🟢	Complete
3	Receive and Process Execution Report - Fill message	🟢	Complete
4	Submit a Cancel message for the remaining quantity left on the original order submitted	🟢	Complete
5	Receive and process Execution Report - Order Cancellation message	🟢	Complete

Key: ⚪ not tested 🟢 complete 🟡 pending 🔴 failed

[REFRESH]

▷ **To run a market order test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.
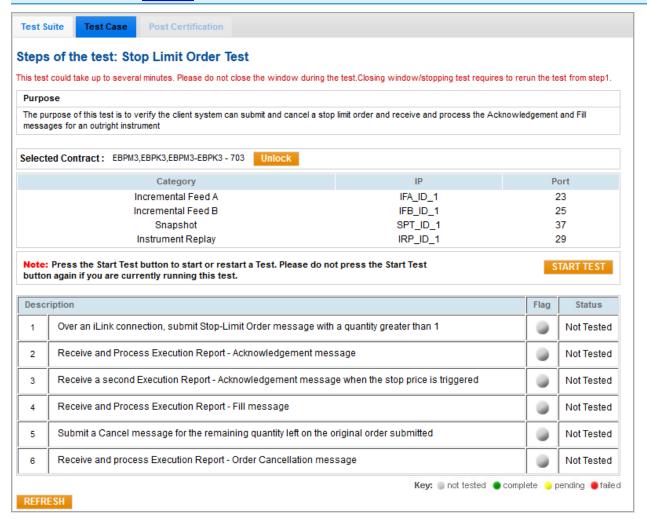
   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Market Day order with a quantity greater than 10 for the instrument.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message correctly.

5. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Fill message correctly.

6. Cancel the remaining quantity left on the original order.

7. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Order Cancellation message correctly.

Stop Limit Order

This test verifies that you can submit and cancel a Stop Limit order and receive and process Execution Reports for Acknowledgment and Fill messages for an outright instrument.

Note: This test is mandatory if you selected "**Stop Limit Order**" in response to the question, "Which order types does your system support?" in the Interview.

▷ **To run a stop-limit order test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

    > **Note**: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Stop-Limit Day order with a quantity greater than 1 for the instrument.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the first Execution Report - Acknowledgment message correctly.

5. Select "**Yes**" or "**No**" to indicate whether or not your system processed the second Execution Report - Acknowledgment message when the stop price triggered correctly.

6. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Fill (35=8, 39= 1 (Partial Fill) message correctly.

7. Submit a Cancel message for the remaining quantity left on the original order.

8. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Order Cancellation message correctly.

Stop Order

This test verifies that your system can submit and cancel a Stop order for an outright instrument.

> **Note**: This test is mandatory if you selected "**Stop Order**" in response to the Interview question, "Which order type does your system support?"

▷ **To run a stop order test:**
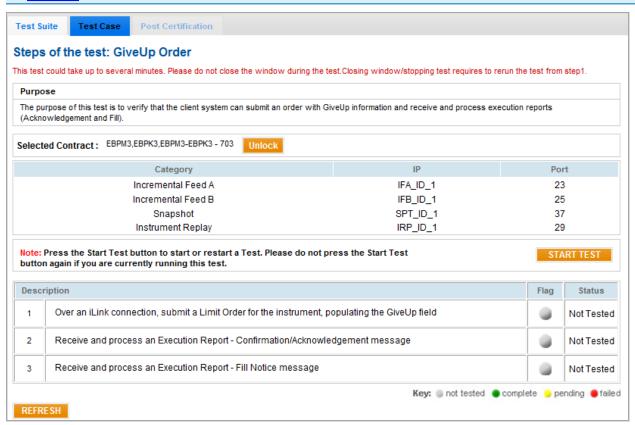
1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   > Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Stop Order with a quantity greater than 10 for the instrument.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the first Execution Report - Acknowledgment message correctly.

5. Select "**Yes**" or "**No**" to indicate whether or not your system processed the second Execution Report - Acknowledgment message when the stop price is triggered correctly.

6. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Fill [35=8, 39=1 (Partial Fill)] message correctly.

7. Submit an Order Cancel Request message for the remaining quantity left on the original order submitted.

8. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Order Cancellation Acknowledgment message correctly.

Give Up Order

This test verifies that your system can submit a Give Up order.

Note: This test is mandatory if you selected "**Yes**" in response to the question, "Does your system support Give Up Orders?" in the Interview.

▷ **To run a give up order test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit order, populating tag 9707-GiveUpFirm and tag 9708-CmtaGiveupCD, over an iLink connection.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Confirmation/Acknowledgment message correctly.

5. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Fill Notice [35=8, 39=1 (Partial Fill)] message correctly.

Spread Tests
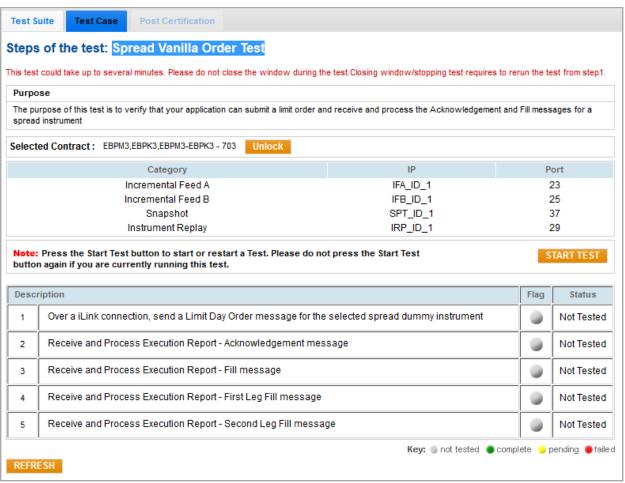
Spread tests include the following:

- Spread Vanilla Order
- Spread Complete Order

Spread Vanilla Order

This test verifies that you can submit a Limit order and receive and process the Execution Reports - Acknowledgment and Fill messages for a spread vanilla order.

Note: This test is mandatory if you answered "**Yes**" to the Interview question, "Does your system support Spread instruments?"

▷ **To run a spread vanilla order test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.
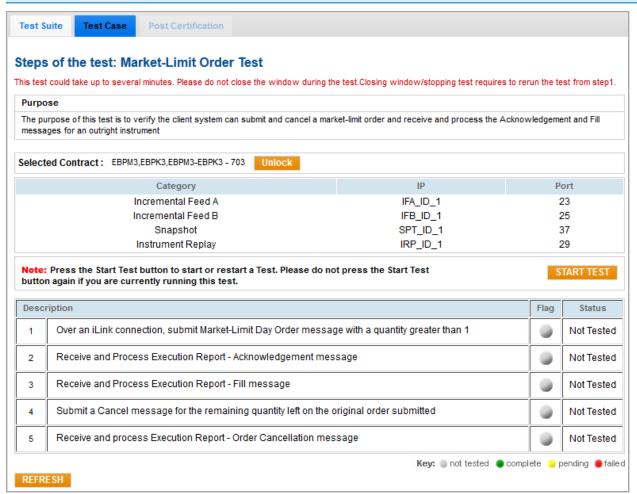2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Spread Limit Day order for the instrument.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message correctly.

5. Enter the following information from the Execution Report - Fill message that your system received:

    - Tag 39-OrdStatus

    - Tag 31-LastPx

    - Tag 38-OrderQty

3	Receive and Process Execution Report - Fill message OrdStatus : LastPx : OrderQty : **Submit**	🟡

6. Enter the value in Tag 31-LastPx from the Execution Report - Fill message for the first leg.

4	Receive and Process Execution Report - First Leg Fill message LastPx : **Submit**	🟡

7. Enter the value in Tag 31-LastPx from the Execution Report - Fill message for the second leg.

5	Receive and Process Execution Report - Second Leg Fill message LastPx : **Submit**	🟡

Key: ⚪ not tested 🟢 complete 🟡 pending 🔴 failed
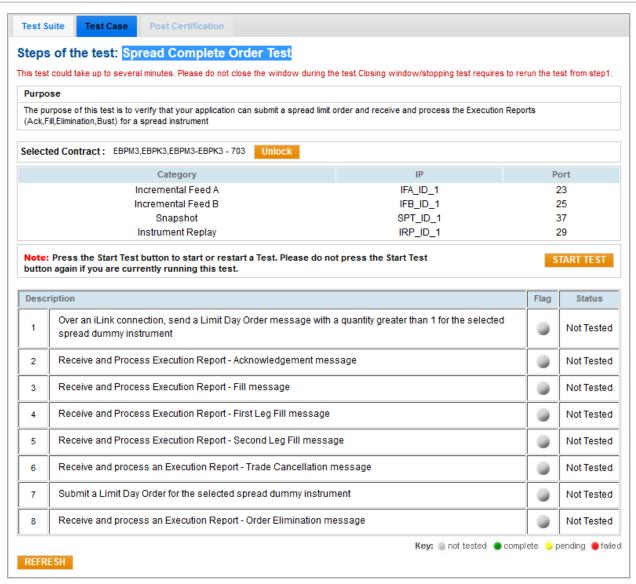
Spread Complete Order

This test verifies that you can submit a Spread Day Limit order and receive and process Execution Reports for an Acknowledgment, Fill, Elimination and Bust for a spread instrument.

Note: This test is required if you answered "**Yes**" to the Interview question, "Does your system support Spread instruments?"

Test Suite | **Test Case** | Post Certification

Steps of the test: Spread Complete Order Test

This test could take up to several minutes. Please do not close the window during the test.Closing window/stopping test requires to rerun the test from step1.

Purpose
The purpose of this test is to verify that your application can submit a spread limit order and receive and process the Execution Reports (Ack,Fill,Elimination,Bust) for a spread instrument

Selected Contract : EBPM3,EBPK3,EBPM3-EBPK3 - 703   **Unlock**

Category	IP	Port
Incremental Feed A	IFA_ID_1	23
Incremental Feed B	IFB_ID_1	25
Snapshot	SPT_ID_1	37
Instrument Replay	IRP_ID_1	29

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.   **START TEST**

	Description	Flag	Status
1	Over an iLink connection, send a Limit Day Order message with a quantity greater than 1 for the selected spread dummy instrument	⚪	Not Tested
2	Receive and Process Execution Report - Acknowledgement message	⚪	Not Tested
3	Receive and Process Execution Report - Fill message	⚪	Not Tested
4	Receive and Process Execution Report - First Leg Fill message	⚪	Not Tested
5	Receive and Process Execution Report - Second Leg Fill message	⚪	Not Tested
6	Receive and process an Execution Report - Trade Cancellation message	⚪	Not Tested
7	Submit a Limit Day Order for the selected spread dummy instrument	⚪	Not Tested
8	Receive and process an Execution Report - Order Elimination message	⚪	Not Tested

Key: ⚪ not tested 🟢 complete 🟡 pending 🔴 failed

REFRESH

▷ **To run a spread complete order test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.
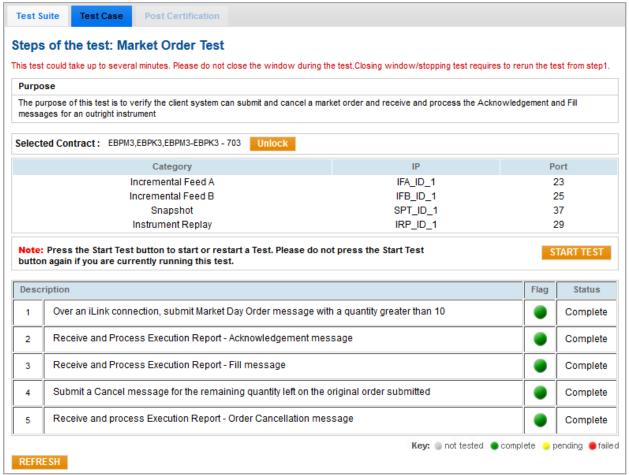
2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Spread Limit Day order with a quantity greater than 1 for the instrument.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message correctly.

5. Enter the following information from the Execution Report - Fill message:

   - Tag 39 OrdStatus

   - Tag 31 LastPx

   - Tag 38 OrderQty

6. Enter tag 31 LastPx from the Execution Report message for the first leg.

7. Enter tag 31-LastPx from the Execution Report message for the second leg.

8. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Trade Cancellation message correctly.

9. Submit a Spread Limit Day Order with any quantity for the instrument.

10. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Order Elimination message correctly.
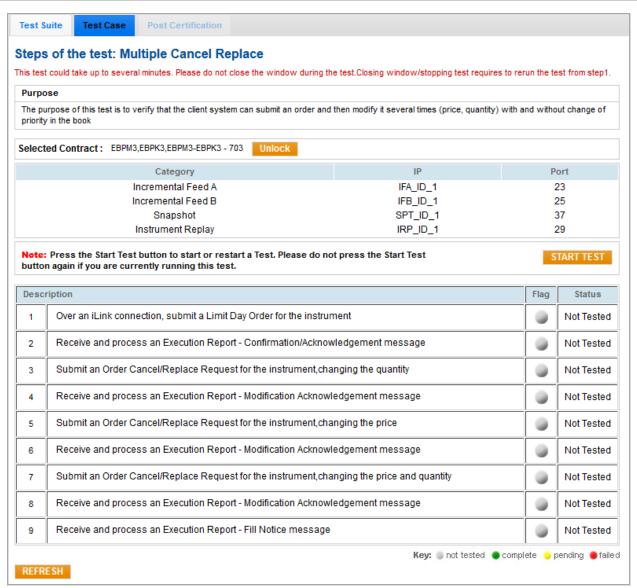
Cancel Tests

Cancel tests include the following:

- Multiple Cancel Replace

- Cancel Replace with IFM

- Mass Order Cancel Tests

    - Mass Action Request by Market Segment ID

    - Mass Action Request by Instrument Group

    - Mass Action Request by Instrument

Multiple Cancel Replace

This test verifies that you can submit an order and then modify it several times (price, quantity) with and without changing its priority in the book.

Test Suite | **Test Case** | Post Certification

Steps of the test: Multiple Cancel Replace

This test could take up to several minutes. Please do not close the window during the test.Closing window/stopping test requires to rerun the test from step1.

Purpose

The purpose of this test is to verify that the client system can submit an order and then modify it several times (price, quantity) with and without change of priority in the book

Selected Contract : EBPM3,EBPK3,EBPM3-EBPK3 - 703 **Unlock**

Category	IP	Port
Incremental Feed A	IFA_ID_1	23
Incremental Feed B	IFB_ID_1	25
Snapshot	SPT_ID_1	37
Instrument Replay	IRP_ID_1	29

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.   **START TEST**

	Description	Flag	Status
1	Over an iLink connection, submit a Limit Day Order for the instrument	⚪	Not Tested
2	Receive and process an Execution Report - Confirmation/Acknowledgement message	⚪	Not Tested
3	Submit an Order Cancel/Replace Request for the instrument,changing the quantity	⚪	Not Tested
4	Receive and process an Execution Report - Modification Acknowledgement message	⚪	Not Tested
5	Submit an Order Cancel/Replace Request for the instrument,changing the price	⚪	Not Tested
6	Receive and process an Execution Report - Modification Acknowledgement message	⚪	Not Tested
7	Submit an Order Cancel/Replace Request for the instrument,changing the price and quantity	⚪	Not Tested
8	Receive and process an Execution Report - Modification Acknowledgement message	⚪	Not Tested
9	Receive and process an Execution Report - Fill Notice message	⚪	Not Tested

Key: ⚪ not tested 🟢 complete 🟡 pending 🔴 failed

REFRESH

▷ **To run a multiple cancel replace test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.
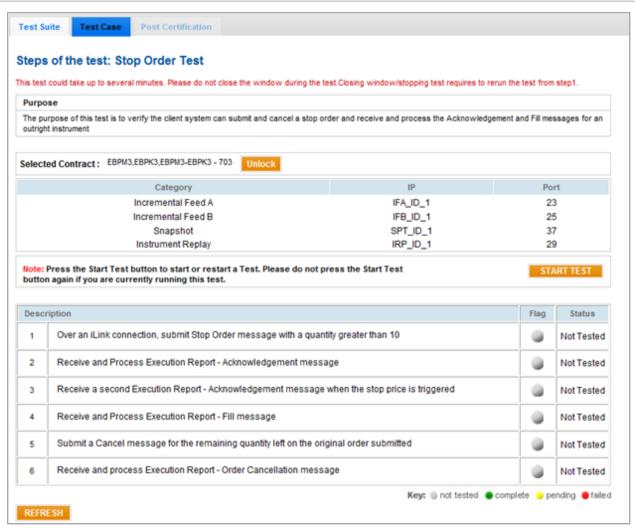
2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit Day order for the instrument.
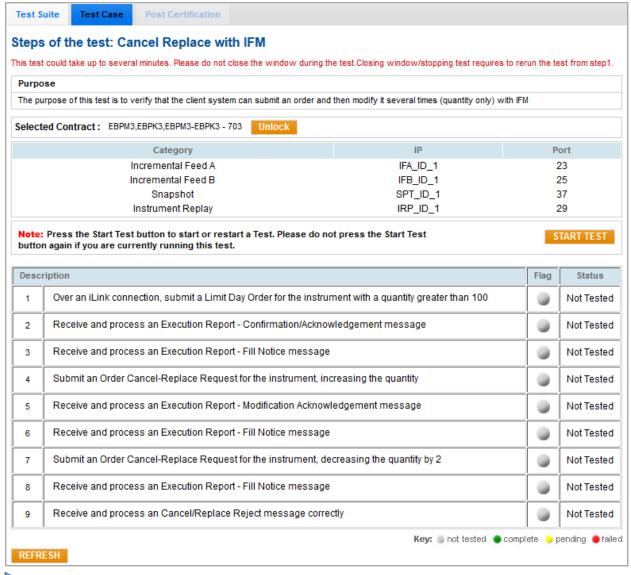
4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Confirmation/Acknowledgment message correctly.

5. Submit an Order Cancel/Replace Request with an adjusted quantity for the instrument.

6. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Modification Acknowledgment message correctly.

7. Submit an Order Cancel/Replace Request with an adjusted price for the instrument.

8. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Modification Acknowledgment message correctly.

9. Submit an Order Cancel/Replace Request with an adjusted quantity and price for the instrument.

10. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Modification/Acknowledgment message correctly.

11. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Fill Notice message correctly.

Cancel/Replace with IFM

This test verifies that you can submit an order and then modify only the quantity several times with IFM.

Note: This test is mandatory if you selected "**Yes**" in response to the Interview question, "Does your system support Cancel Replace with In-Flight Mitigation (IFM) functionality?"

| Test Suite | **Test Case** | Post Certification |

Steps of the test: Cancel Replace with IFM

This test could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to rerun the test from step1.

Purpose
The purpose of this test is to verify that the client system can submit an order and then modify it several times (quantity only) with IFM

Selected Contract : EBPM3,EBPK3,EBPM3-EBPK3 - 703   **Unlock**

Category	IP	Port
Incremental Feed A	IFA_ID_1	23
Incremental Feed B	IFB_ID_1	25
Snapshot	SPT_ID_1	37
Instrument Replay	IRP_ID_1	29

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.   **START TEST**

	Description	Flag	Status
1	Over an iLink connection, submit a Limit Day Order for the instrument with a quantity greater than 100	⚪	Not Tested
2	Receive and process an Execution Report - Confirmation/Acknowledgement message	⚪	Not Tested
3	Receive and process an Execution Report - Fill Notice message	⚪	Not Tested
4	Submit an Order Cancel-Replace Request for the instrument, increasing the quantity	⚪	Not Tested
5	Receive and process an Execution Report - Modification Acknowledgement message	⚪	Not Tested
6	Receive and process an Execution Report - Fill Notice message	⚪	Not Tested
7	Submit an Order Cancel-Replace Request for the instrument, decreasing the quantity by 2	⚪	Not Tested
8	Receive and process an Execution Report - Fill Notice message	⚪	Not Tested
9	Receive and process an Cancel/Replace Reject message correctly	⚪	Not Tested

Key: ⚪ not tested 🟢 complete 🟡 pending 🔴 failed

REFRESH

▷ **To run a cancel replace with IFM test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.
2. Click the "**START TEST**" button.

> **Note**: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit Day order with a quantity greater than one hundred for the instrument.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Confirmation/Acknowledgment message correctly.

5. Enter the price and the remaining quantity from the Execution Report - Fill Notice message for the executed order.

3	Receive and process an Execution Report - Fill Notice message LastPx: [____] LeavesQty: [____] **Submit**	🟡
4	Submit an Order Cancel-Replace Request for the instrument,increasing the quantity	🟢

6. Submit an Order Cancel/Replace Request with an increase in quantity for the instrument.

7. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report – Modification Acknowledgment message correctly.

8. Enter the value from tag 151-LeavesQty from the Execution Report - Fill Notice message.

6	Receive and process an Execution Report - Fill Notice message LeavesQty: [____] **Submit**	🟡
7	Submit an Order Cancel-Replace Request for the instrument,decreasing the quantity by 2	🟢

9. Submit an Order Cancel/Replace Request for the instrument, decreasing the quantity by 2.

10. Select "**Yes**" or "**No**" to indicate whether or not your system received an Execution Report - Fill Notice.

11. Select "**Yes**" or "**No**" to indicate whether or not your system received an Order Cancel Reject message.
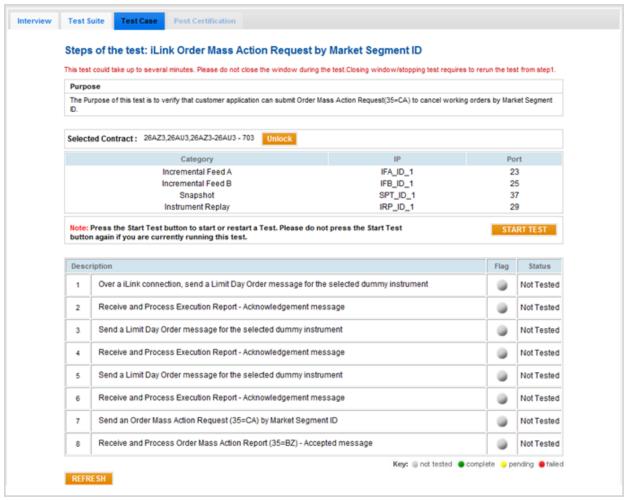
Mass Order Cancel Tests

Mass Order Cancel tests include the following:

- Mass Action Request by Market Segment ID
- Mass Action Request by Instrument Group
- Mass Action Request by Instrument

Mass Action Request by Market Segment ID

This test verifies that you can submit an Order Mass Action Request (tag 35-MsgType=CA) message to cancel working orders by Market Segment ID.

▷ **To run an iLink Order Mass Action Request by Market Segment ID test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit Day order message for the selected instrument.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message.

5. Submit a Limit Day order for the instrument.

6. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message.

7. Submit a Limit Day order for the instrument.

8. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message.

9. Submit an Order Mass Action Request (35=CA) message by Market Segment ID.

10. Enter the values from the following tags to confirm that your system received and processed the Order Mass Action Report - Accepted (35=BZ) message.

- tag 1300-MarketSegmentID

- tag 1374-MassActionScope

- tag 1375-MassActionResponse

	Receive and Process Order Mass Action Report (35=BZ) - Accepted message		
8	MarketSegmentID : MassActionScope : MassActionResponse : **Submit**	🟡	Pending

Mass Action Request by Instrument Group

This test verifies that you can submit an Order Mass Action Request (tag 35-MsgType=CA) message to cancel working orders by instrument group.

▷ **To run an iLink Order Mass Action Request by Instrument Group test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit Day order message for the selected instrument.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message.

5. Submit a Limit Day order for a different instrument in the same instrument group as the order from step 1 (on the AutoCert+ screen).

6. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message.

7. Submit a Limit Day order for a different instrument group from step 1.

8. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message.
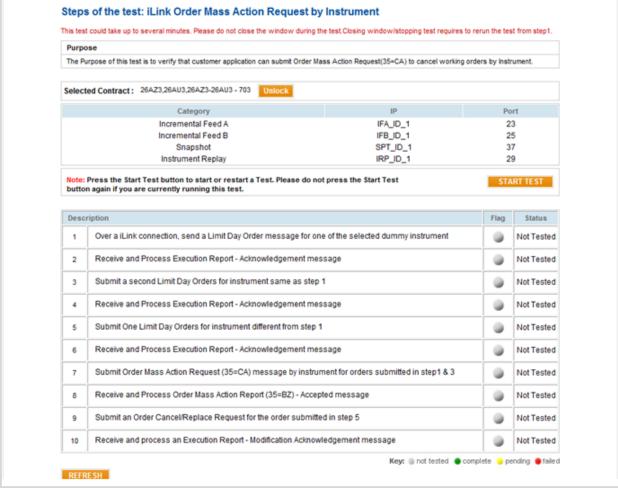
9. Submit an Order Mass Action Request (35=CA) message by instrument group for the instrument groups from steps 1 and 3.

10. Enter the values from the following tags to confirm that your system received and processed the Order Mass Action Report - Accepted (35=BZ) message.

- tag 1374-MassActionScope

- tag 1375-MassActionResponse

8	Receive and Process Order Mass Action Report (35=BZ) - Accepted message MassActionScope : MassActionResponse : **Submit**	🟡	Pending

11. Submit an Order Cancel/Replace Request for the order submitted in step 5.

12. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Modification Acknowledgment message.

Mass Action Request by Instrument

This test verifies that you can submit an Order Mass Action Request (tag 35-MsgType=CA) message to cancel working orders by instrument.

Steps of the test: iLink Order Mass Action Request by Instrument

This test could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to rerun the test from step1.

Purpose

The Purpose of this test is to verify that customer application can submit Order Mass Action Request(35=CA) to cancel working orders by Instrument.

Selected Contract : 26AZ3,26AU3,26AZ3-26AU3 - 703   Unlock

Category	IP	Port
Incremental Feed A	IFA_ID_1	23
Incremental Feed B	IFB_ID_1	25
Snapshot	SPT_ID_1	37
Instrument Replay	IRP_ID_1	29

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.   START TEST

	Description	Flag	Status
1	Over a iLink connection, send a Limit Day Order message for one of the selected dummy instrument	⬤	Not Tested
2	Receive and Process Execution Report - Acknowledgement message	⬤	Not Tested
3	Submit a second Limit Day Orders for instrument same as step 1	⬤	Not Tested
4	Receive and Process Execution Report - Acknowledgement message	⬤	Not Tested
5	Submit One Limit Day Orders for instrument different from step 1	⬤	Not Tested
6	Receive and Process Execution Report - Acknowledgement message	⬤	Not Tested
7	Submit Order Mass Action Request (35=CA) message by instrument for orders submitted in step1 & 3	⬤	Not Tested
8	Receive and Process Order Mass Action Report (35=BZ) - Accepted message	⬤	Not Tested
9	Submit an Order Cancel/Replace Request for the order submitted in step 5	⬤	Not Tested
10	Receive and process an Execution Report - Modification Acknowledgement message	⬤	Not Tested

Key: ⬤ not tested ⬤ complete ⬤ pending ⬤ failed

REFRESH

▷ **To run an iLink Order Mass Action Request by Instrument test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit Day order message for the selected instrument.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message.

5. Submit a second Limit Day order for the same instrument from step 1 (on the AutoCert+ screen).

6. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message.

7. Submit a Limit Day order for a different instrument from step 1.

8. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message.

9. Submit an Order Mass Action Request (35=CA) message by instrument from steps 1 and 3.

10. Enter the values from the following tags to confirm that your system received and processed the Order Mass Action Report - Accepted (35=BZ) message.

- tag 1374-MassActionScope

- tag 1375-MassActionResponse

8	Receive and Process Order Mass Action Report (35=BZ) - Accepted message MassActionScope : MassActionResponse : **Submit**	🟡	Pending

11. Submit an Order Cancel/Replace Request for the order submitted in step 5.

12. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Modification Acknowledgment message.

Quote Tests
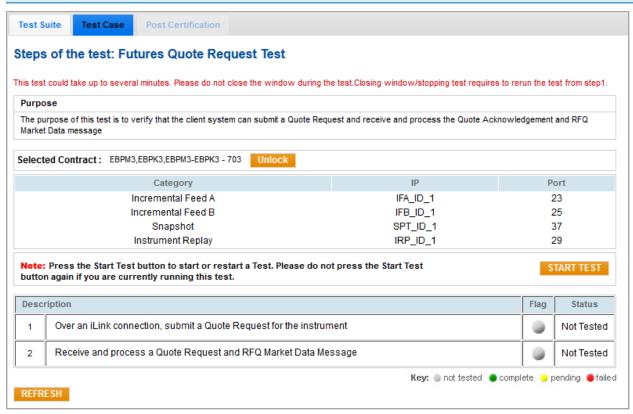
Quote tests include the following:

- [Quote Request Futures](#)
- [Quote Request Options](#)

Quote Request Futures

This test verifies that you can submit a Quote Request for futures and receive and process the Quote Acknowledgment and RFQ Market Data message.

Note: This test is mandatory if you selected "**Futures**" in response to the [Interview](#) question, "What types of Instruments will your system support?"

Test Suite	Test Case	Post Certification

Steps of the test: Futures Quote Request Test

This test could take up to several minutes. Please do not close the window during the test.Closing window/stopping test requires to rerun the test from step1.

Purpose
The purpose of this test is to verify that the client system can submit a Quote Request and receive and process the Quote Acknowledgement and RFQ Market Data message

Selected Contract : EBPM3,EBPK3,EBPM3-EBPK3 - 703 **Unlock**

Category	IP	Port
Incremental Feed A	IFA_ID_1	23
Incremental Feed B	IFB_ID_1	25
Snapshot	SPT_ID_1	37
Instrument Replay	IRP_ID_1	29

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.   **START TEST**

	Description	Flag	Status
1	Over an iLink connection, submit a Quote Request for the instrument	⬤	Not Tested
2	Receive and process a Quote Request and RFQ Market Data Message	⬤	Not Tested

Key: ⬤ not tested 🟢 complete 🟡 pending 🔴 failed
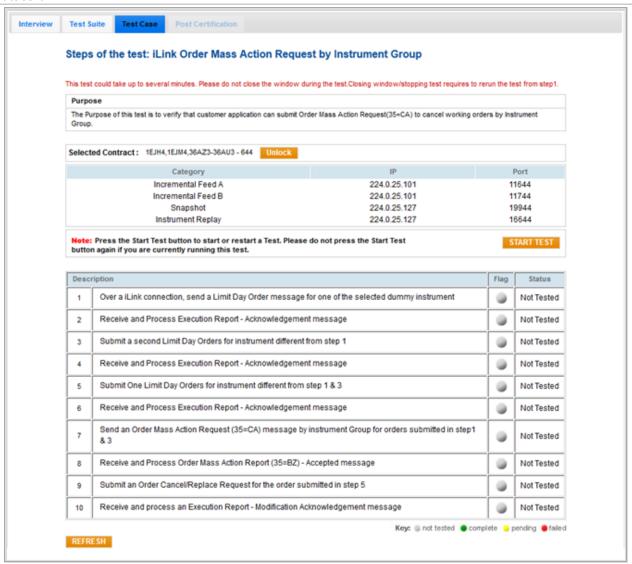
REFRESH

▷ **To run a quote request futures test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.
2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a [Quote Request (35=R)](#) message for the instrument.

   CME Group sends a Request for Quote (RFQ) message.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the [Quote Request - Acknowledgment (35=b)](#) and the [Quote Request (35=R)](#) market data message.

Quote Request Options

This test verifies that you can submit a Quote Request for options and receive and process the Quote Acknowledgment and RFQ Market Data messages.

Note: This test is mandatory if you selected "**Options**" in response to the Interview question, "What types of Instruments will your system support?"

 To run a quote request options test:

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Quote Request (35=R) message for the instrument.

   CME Group sends a Request for Quote (RFQ) message.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the <u>Quote Request - Acknowledgment (35=b)</u> and the <u>Quote Request (35=R)</u> market data message.

Mass Order Status Tests

Mass Order Status Tests include the following:.

Order Status Request
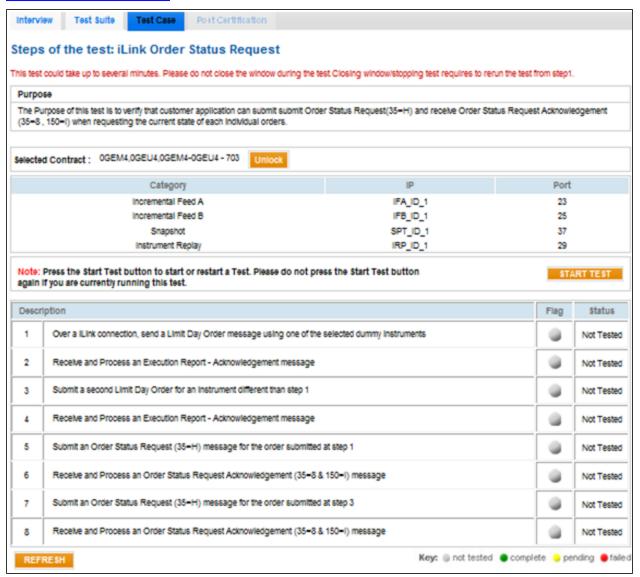
Order Mass Action Request for All Working Orders

Order Mass Action Request for all Working Orders for an Instrument Group

Order Mass Action Request for all Working Orders for an Instrument

Order Status Request

This test verifies that you can submit an Order Status Request (tag 35-MsgType=H) and receive an Order Status Request acknowledgment (35-8, 150-I) when requesting the current state of individual orders.
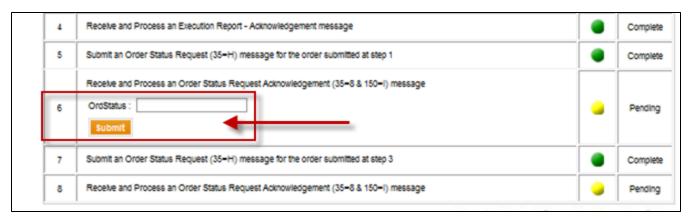
▷ **To run an iLink Order Status Request:**

1. From the Contract drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

    Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit Day order for the instrument.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message.

5. Submit a Limit Day order for a different instrument from ACP step 1.
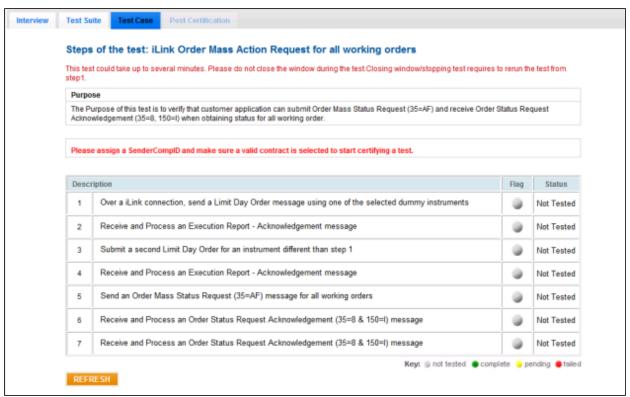
6. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message.

7. Submit an Order Request Acknowledgment (35-8 and 150-I) Status Request(35=H) message for the first Limit Day Order.

8. Click the "**REFRESH**" button.

9. Enter the values from the following tags to confirm that your system received and processed the Order Status Request Acknowledgment Report - Accepted (35=BZ 35=7 & 150=I) message.

  - Tag 39 - OrdStatus

10. Click the "**SUBMIT**" button.

11. Submit an Order Mass Action Request (35=H) message by Market Segment ID. Status Request(35=H) message for the first Limit Day Order.

12. Click the "**REFRESH**" button

13. After receiving the Order Status Request Acknowledgment (35-8 and 150-I), process it.

Order Mass Action Request for All Working Orders
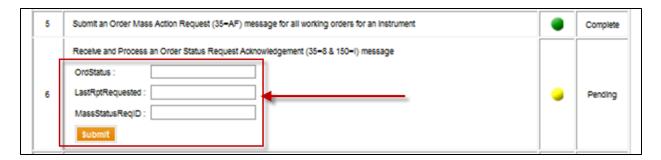
This test verifies that you can submit an (Order Status Request (tag 35-MsgType=AF) and receive an Order Status Request Acknowledgment (35-8, 150-I) to obtain a status for all working orders.

▷ **To run an iLink Order Mass Action Request for all working orders:**

1. From the Contract drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit Day order message for the selected instrument.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message.

5. Submit a Limit Day order for a different instrument from step 1.

6. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message.

7. Submit an Order Mass Action Request for all working orders (35=AF).

8. Enter the values from the following tags to confirm that your system received and processed the Exec Rep - 35=8, 150 message.
    - Tag 39-OrdStatus
    - Tag 912-LastRptRequested
    - Tag 584-MassStatusReqID

Order Mass Action Request for all Working Orders for an Instrument Group

This test verifies that you can submit an (Order Status Request (tag 35-MsgType=AF) and receive an Order Status Request acknowledgment (35-8, 150-I) when requesting the current state of all working orders for an instrument group.

This test verifies that you can submit an Order Status Request (35-H) and receive an Order Status Request acknowledgment (35-8, 150-I) when requesting the current state of all working orders for an instrument group.

▷ **To run an iLink Order Mass Action Request for all working orders for an instrument group:**

1. From the Contract drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.
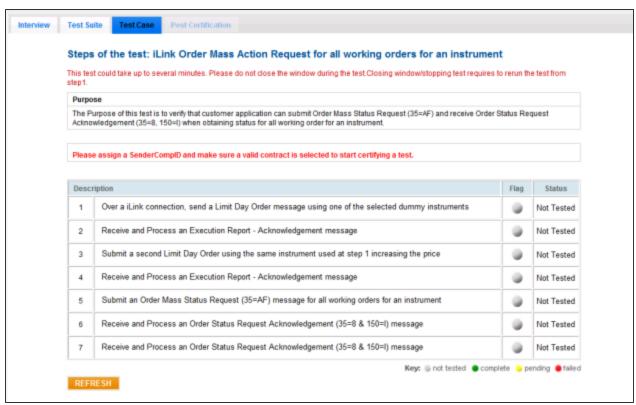
1. Submit a Limit Day order message for the selected instrument.

2. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message.

3. Submit a Limit Day order for a different instrument in the same instrument group as the order from step 1 (on the AutoCert+ screen).

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message.

5. Submit an Order Mass Action Request (35=AF) message by instrument group for the instrument groups from step 1.

6. Enter the values from the following tags to confirm that your system received and processed the Exec Rep - 35=8, 150 message.
   - Tag 39-OrdStatus
   - Tag 912-LastRptRequested
   - Tag 584-MassStatusReqID

Order Mass Action Request for all Working Orders for an Instrument
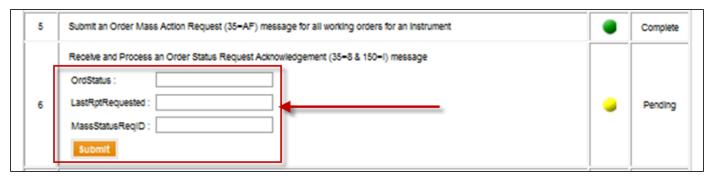
This test verifies that you can submit an iLink Order Status Request (tag 35-MsgType=AF) and receive an Order Status Request Acknowledgment (35-8, 150-I) when obtaining a status for all working orders for an instrument.

▷ **To run an iLink Order Mass Action Request for all Working Orders for an Instrument:**
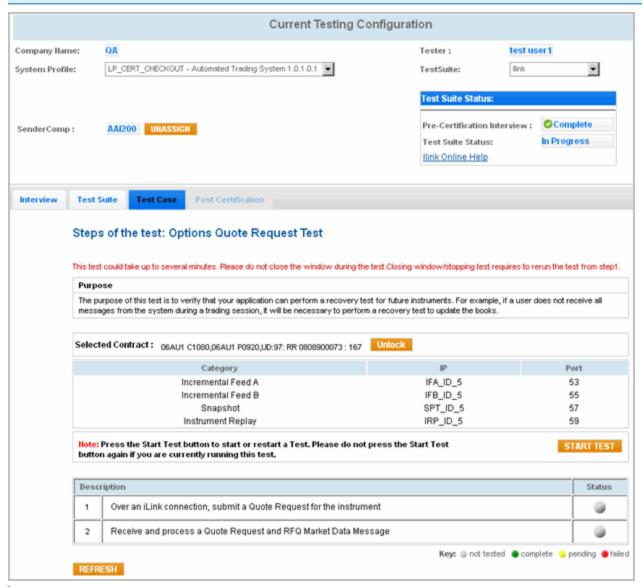
1. From the Contract drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

> **Note**: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit Day order message for the selected instrument.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message.

5. Submit a second Limit Day order for the same instrument from step 1 (on the AutoCert+ screen).

6. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Acknowledgment message.

7. Submit an Order Mass Action Request (35=CA) message for all working orders for an instrument.

8. Enter the values from the following tags to confirm that your system received and processed received and processed the Exec Rep - 35=8, 150 message.

- Tag 39-OrdStatus
- Tag 912-LastRptRequested
- Tag 584-MassStatusReqID

Order Management Tests

Order Management tests include the following:

- Order Life Time
    - Good Till Cancel (GTC)
    - Good Till Date (GTD)
    - Fill and Kill (FAK)
- Manage Minimum Quantity
- Manage Maximum Quantity Display
- Manage Maximum Quantity Display with Cancel/Replace
- Route-Through
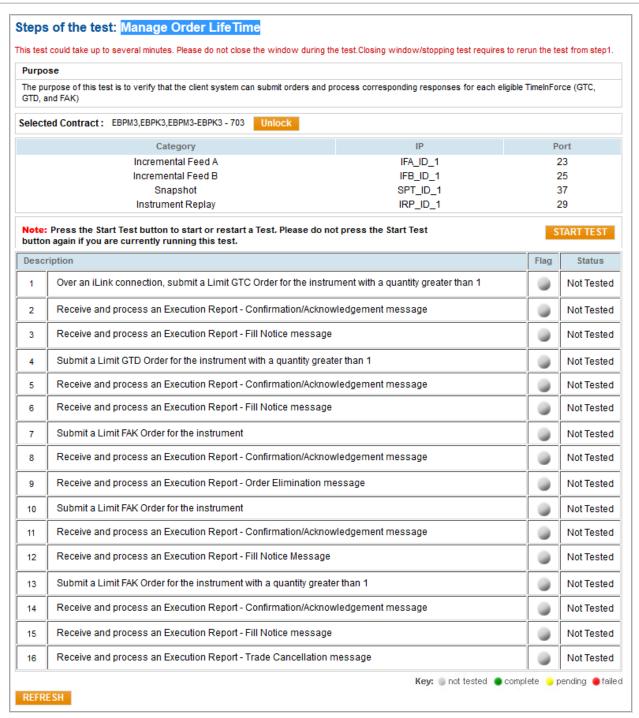
Order Life Time

Order Life Time tests include the following:

- Good Till Cancel (GTC)
- Good Till Date (GTD)
- Fill and Kill (FAK)

Good Till Cancel (GTC) Orders

This test is required if you selected "**Good Till Cancel (GTC)**" in response to the question, "What order qualifiers will your system support?" in the Interview.

Steps of the test: Manage Order LifeTime

This test could take up to several minutes. Please do not close the window during the test.Closing window/stopping test requires to rerun the test from step1.

Purpose
The purpose of this test is to verify that the client system can submit orders and process corresponding responses for each eligible TimeInForce (GTC, GTD, and FAK)

Selected Contract : EBPM3,EBPK3,EBPM3-EBPK3 - 703   Unlock

Category	IP	Port
Incremental Feed A	IFA_ID_1	23
Incremental Feed B	IFB_ID_1	25
Snapshot	SPT_ID_1	37
Instrument Replay	IRP_ID_1	29

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.   START TEST

	Description	Flag	Status
1	Over an iLink connection, submit a Limit GTC Order for the instrument with a quantity greater than 1	⚪	Not Tested
2	Receive and process an Execution Report - Confirmation/Acknowledgement message	⚪	Not Tested
3	Receive and process an Execution Report - Fill Notice message	⚪	Not Tested
4	Submit a Limit GTD Order for the instrument with a quantity greater than 1	⚪	Not Tested
5	Receive and process an Execution Report - Confirmation/Acknowledgement message	⚪	Not Tested
6	Receive and process an Execution Report - Fill Notice message	⚪	Not Tested
7	Submit a Limit FAK Order for the instrument	⚪	Not Tested
8	Receive and process an Execution Report - Confirmation/Acknowledgement message	⚪	Not Tested
9	Receive and process an Execution Report - Order Elimination message	⚪	Not Tested
10	Submit a Limit FAK Order for the instrument	⚪	Not Tested
11	Receive and process an Execution Report - Confirmation/Acknowledgement message	⚪	Not Tested
12	Receive and process an Execution Report - Fill Notice Message	⚪	Not Tested
13	Submit a Limit FAK Order for the instrument with a quantity greater than 1	⚪	Not Tested
14	Receive and process an Execution Report - Confirmation/Acknowledgement message	⚪	Not Tested
15	Receive and process an Execution Report - Fill Notice message	⚪	Not Tested
16	Receive and process an Execution Report - Trade Cancellation message	⚪	Not Tested

Key: ⚪ not tested 🟢 complete 🟡 pending 🔴 failed

REFRESH

▷ **To run a GTC test:**

Note: To test the GTC qualifier, steps 1 - 3 are mandatory.

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.
2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit GTC order for the instrument with a quantity greater than 1.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the following messages:

- Execution Report - Confirmation/Acknowledgment
- Execution Report - Fill Notice [39=1 (Partial Fill)]

Good Till Date (GTD)

This test is required if you selected "**Good Till Date (GTD)**" in response to the Interview question, "What order qualifiers will your system support?"

To run a GTD test:

> **Note:** To test Order Life Time (GTC), steps 4 - 6 are mandatory.
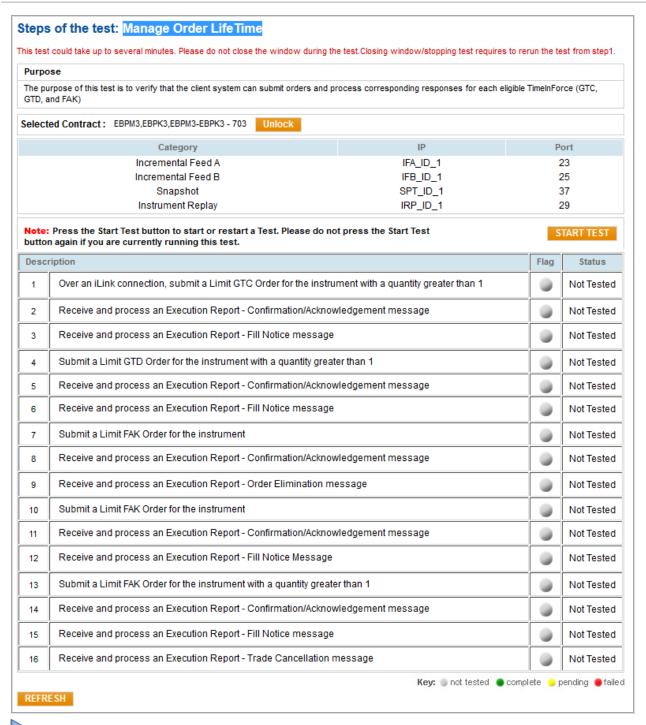
1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

> **Note**: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit GTD order with a quantity greater than 1.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the following messages:

   - Execution Report - Acknowledgment
   - Execution Report - Fill Notice [39=2 (Complete Fill)] message correctly.

Fill and Kill (FAK)

This test is required if you selected "**Fill and Kill (FAK)**" in response to the question, "What order qualifiers will your system support?" in the Interview.

Steps of the test: Manage Order LifeTime

This test could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to rerun the test from step1.

Purpose
The purpose of this test is to verify that the client system can submit orders and process corresponding responses for each eligible TimeInForce (GTC, GTD, and FAK)

Selected Contract : EBPM3,EBPK3,EBPM3-EBPK3 - 703   Unlock

Category	IP	Port
Incremental Feed A	IFA_ID_1	23
Incremental Feed B	IFB_ID_1	25
Snapshot	SPT_ID_1	37
Instrument Replay	IRP_ID_1	29

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.   START TEST

	Description	Flag	Status
1	Over an iLink connection, submit a Limit GTC Order for the instrument with a quantity greater than 1	⚪	Not Tested
2	Receive and process an Execution Report - Confirmation/Acknowledgement message	⚪	Not Tested
3	Receive and process an Execution Report - Fill Notice message	⚪	Not Tested
4	Submit a Limit GTD Order for the instrument with a quantity greater than 1	⚪	Not Tested
5	Receive and process an Execution Report - Confirmation/Acknowledgement message	⚪	Not Tested
6	Receive and process an Execution Report - Fill Notice message	⚪	Not Tested
7	Submit a Limit FAK Order for the instrument	⚪	Not Tested
8	Receive and process an Execution Report - Confirmation/Acknowledgement message	⚪	Not Tested
9	Receive and process an Execution Report - Order Elimination message	⚪	Not Tested
10	Submit a Limit FAK Order for the instrument	⚪	Not Tested
11	Receive and process an Execution Report - Confirmation/Acknowledgement message	⚪	Not Tested
12	Receive and process an Execution Report - Fill Notice Message	⚪	Not Tested
13	Submit a Limit FAK Order for the instrument with a quantity greater than 1	⚪	Not Tested
14	Receive and process an Execution Report - Confirmation/Acknowledgement message	⚪	Not Tested
15	Receive and process an Execution Report - Fill Notice message	⚪	Not Tested
16	Receive and process an Execution Report - Trade Cancellation message	⚪	Not Tested

Key: ⚪ not tested 🟢 complete 🟡 pending 🔴 failed

REFRESH

▷ **To run a FAK test:**

Note: To test Fill and Kill (FAK), steps 7 - 16 are mandatory.

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.
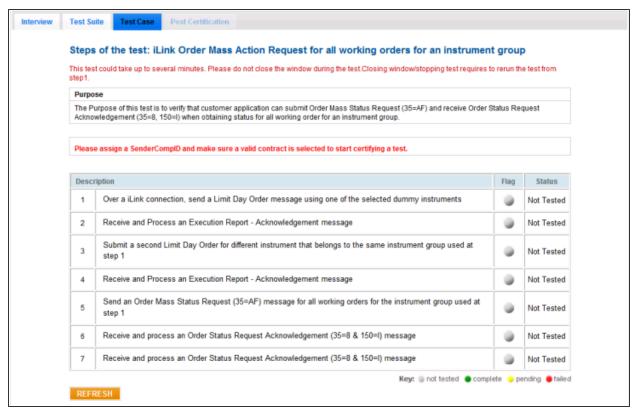
2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit FAK order.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the following messages:

- Execution Report - Confirmation/Acknowledgment

- Execution Report - Order Elimination (sent because there is nothing to match in the book.)

5. Submit a Limit FAK order.

6. Select "**Yes**" or "**No**" to indicate whether or not your system processed the following messages:

- Execution Report - Confirmation/Acknowledgment

- Execution Report - Fill Notice

7. Submit a Limit FAK order for the instrument with a quantity greater than 1.

8. Select "**Yes**" or "**No**" to indicate whether or not your system processed the following messages:

- Execution Report - Confirmation/Acknowledgment

- Execution Report - Fill Notice [39=1 (Partial Fill)]

- Execution Report - Trade Cancellation (for the quantity that was not filled.)

Manage Minimum Quantity

This test verifies that you can submit an order with a Minimum Quantity in various Fill and Kill (FAK) order scenarios.

Note: This test is **mandatory** if you selected "**Yes**" in response to the question, "Does your system support Minimum Quantity functionality?" and "**Fill and Kill**" for the question, "What order qualifiers will your system support?" in the Interview.

Note: This test is **optional** if you selected "**No**" in response to the question, "Does your system support Minimum Quantity functionality?" or if you **DID NOT** select "**Fill and Kill**" for the question, "What order qualifiers will your system support?" in the Interview.

> ### To run a minimum quantity test:

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit FAK order for the instrument with a minimum quantity value.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the following messages:

   - Execution Report - Confirmation/Acknowledgment

   - Execution Report – Order Elimination (sent because there is nothing in the book to match.)

5. Submit a Limit FAK order for the instrument with a minimum quantity value.

6. Select "**Yes**" or "**No**" to indicate whether or not your system processed the following messages:

   - Execution Report - Confirmation/Acknowledgment.

   - Execution Report - Fill Notice

Manage Maximum Quantity Display

This test verifies that you can submit an order with Maximum Quantity Display (tag 210-MaxShow) used in different scenarios (multiple partial fills greater and smaller than MaxShow, with and without cancel/replace).

Note: This test is mandatory if the customer selected "Yes" in response to the question "Does your system support Maximum Quantity Display functionality?" in the Interview.

Steps of the test: Manage Maximum Quantity Display

This test could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to rerun the test from step1.

Purpose

The purpose of this test is to verify that the client system can submit an order with Maximum Quantity Display (MaxShow) used in different scenarios (multiple partial fills greater and smaller than MaxShow, with and without cancel/replace)

Selected Contract : EBPM3,EBPK3,EBPM3-EBPK3 - 703   **Unlock**

Category	IP	Port
Incremental Feed A	IFA_ID_1	23
Incremental Feed B	IFB_ID_1	25
Snapshot	SPT_ID_1	37
Instrument Replay	IRP_ID_1	29

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.   **START TEST**

	Description	Flag	Status
1	Over an iLink connection, submit a Limit Day Order for the instrument with a quantity greater than 4 with maximum quantity (MaxShow) greater than 2	⚪	Not Tested
2	Receive and process an Execution Report - Confirmation/Acknowledgement message	⚪	Not Tested
3	Receive and process an Execution Report - Fill Notice message	⚪	Not Tested
4	Receive and process an Execution Report - Fill Notice message	⚪	Not Tested

Key: ⚪ not tested 🟢 complete 🟡 pending 🔴 failed

REFRESH

▷ **To run a maximum quantity display test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.
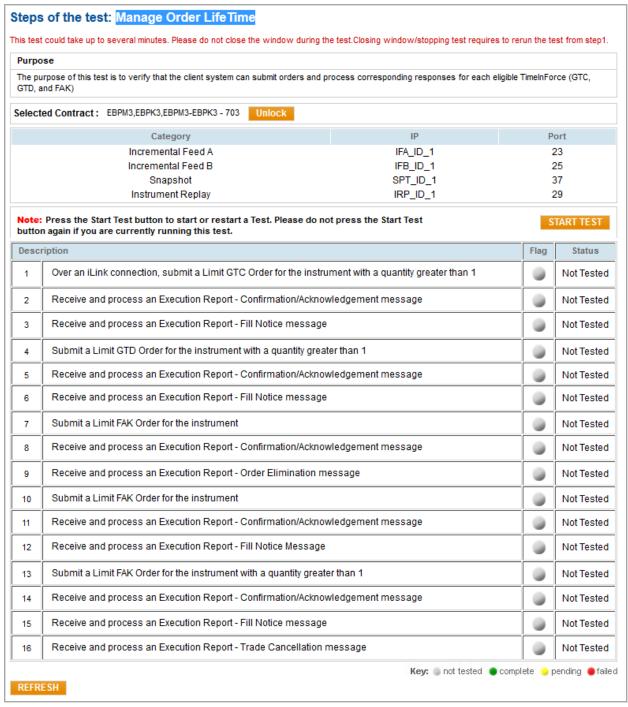
2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit Day order with a quantity greater than 4 and a maximum quantity (tag 210-MaxShow) greater than 2 for the instrument.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Confirmation/Acknowledgment message correctly.

5. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Fill Notice [39=1 (Partial Fill)] message correctly.

6. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Fill Notice [39=2 (Complete Fill)] message correctly.

Manage Maximum Quantity Display with Cancel-Replace

This test verifies that you can submit an order with Maximum Quantity Display (tag 210-MaxShow) used in various scenarios (multiple partial fills greater and smaller than MaxShow, with and without cancel/replace).

Steps of the test: Manage Maximum Quantity Display with Cancel-Replace

This test could take up to several minutes. Please do not close the window during the test.Closing window/stopping test requires to rerun the test from step1.

Purpose
The purpose of this test is to verify that the client system can submit an order with Maximum Quantity Display (MaxShow) used in different scenarios (multiple partial fills greater and smaller than MaxShow, with and without cancel/replace)

Selected Contract: EBPM3,EBPK3,EBPM3-EBPK3 - 703   **Unlock**

Category	IP	Port
Incremental Feed A	IFA_ID_1	23
Incremental Feed B	IFB_ID_1	25
Snapshot	SPT_ID_1	37
Instrument Replay	IRP_ID_1	29

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.

START TEST

	Description	Flag	Status
1	Submit a Limit Day Order for the instrument with a quantity greater than 4 with a maximum quantity greater than 2	⚪	Not Tested
2	Receive and process an Execution Report - Confirmation/Acknowledgement message	⚪	Not Tested
3	Receive and process an Execution Report - Fill Notice message	⚪	Not Tested
4	Submit an Order Cancel/Replace Request increasing the quantity and the MaxShow amount	⚪	Not Tested
5	Receive and process an Execution Report - Modification Acknowledgement message	⚪	Not Tested
6	Receive and process an Execution Report - Fill Notice message	⚪	Not Tested
7	Submit an Order Cancel/Replace Request decreasing the MaxShow amount	⚪	Not Tested
8	Receive and process an Execution Report - Modification Acknowledgement message	⚪	Not Tested
9	Receive and process an Execution Report - Fill Notice message	⚪	Not Tested

Key: ⚪ not tested 🟢 complete 🟡 pending 🔴 failed

REFRESH

▷ **To run a maximum quantity display with cancel-replace test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.
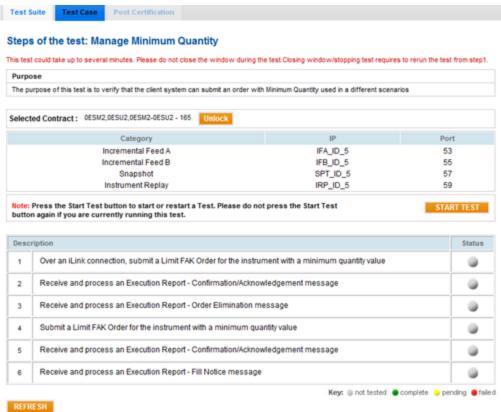
2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit Day order with a quantity greater than four with a maximum quantity greater than two for the instrument.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Confirmation/Acknowledgment message correctly.

5. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Fill Notice message correctly.

6. Submit an Order Cancel/Replace Request increasing both the quantity and tag 210-MaxShow value for the instrument.

7. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Modification Acknowledgment message correctly.

8. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Fill Notice message correctly.

9. Submit an Order Cancel/Replace Request decreasing the tag 210-MaxShow value.

10. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Modification/Acknowledgment message correctly.

11. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Fill Notice message correctly.

Manage Route-Through

Route-through functionality allows firms to submit orders for clients as well as other clearing members for whom the firm is authorized to do business. This is done by changing the Firm within tag 49-SenderCompID to one that is assigned by another firm.

This test verifies that you can manage orders which includes alternate submission of orders, cancel replace and cancels from different FirmIDs for the same session ID.

Note: This test is mandatory if you selected "Yes" in response to the question, "Does your system support Route-Through functionality?" in the Interview.

Test Suite	Test Case	Post Certification

Steps of the test: Manage Route-Through
This test could take up to several minutes. Please do not close the window during the test.Closing window/stopping test requires to rerun the test from step1.

Purpose
The purpose of this test is to verify that the client system can manage orders using multiple Firm IDs for the same session ID (alternate submission of order, cancel replace and cancels from different FirmIDs)

Selected Contract :	EBPM3,EBPK3,EBPM3-EBPK3 - 703	**Unlock**

Category	IP	Port
Incremental Feed A	IFA_ID_1	23
Incremental Feed B	IFB_ID_1	25
Snapshot	SPT_ID_1	37
Instrument Replay	IRP_ID_1	29

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.   **START TEST**

	Description	Flag	Status
1	Over an iLink connection, submit a Limit Order for the instrument with a quantity greater than 1 using Firm ID #1	⚪	Not Tested
2	Receive and process an Execution Report - Confirmation/Acknowledgement message	⚪	Not Tested
3	Submit a Limit Order for the instrument with a quantity greater than 1 using a different Firm ID	⚪	Not Tested
4	Receive and process an Execution Report - Confirmation/Acknowledgement message	⚪	Not Tested

Key: ⚪ not tested 🟢 complete 🟡 pending 🔴 failed

REFRESH

▷ **To run a route-through test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.
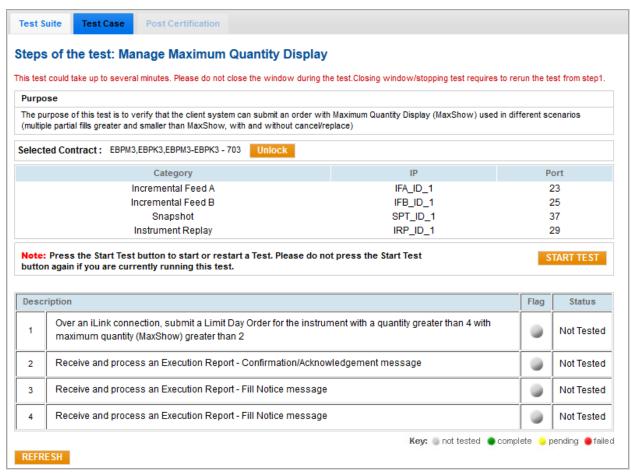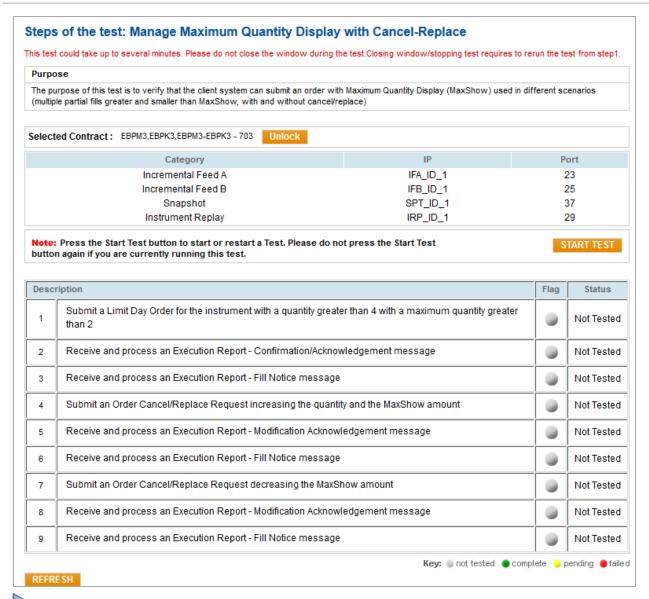
2. Click the "**START TEST**" button.

Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit order with a quantity greater than 1 using Firm ID #1 (tag 49-SenderCompID).

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Confirmation/Acknowledgment message correctly.

5. Submit a Limit Order with a quantity greater than 1 using a different Firm ID .

Note: This order must have a different firm ID in tag 49-SenderCompID than the first order to pass this step, for example, ABC123 and ABC456.

6. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Confirmation/Acknowledgment message correctly.

Additional Processing
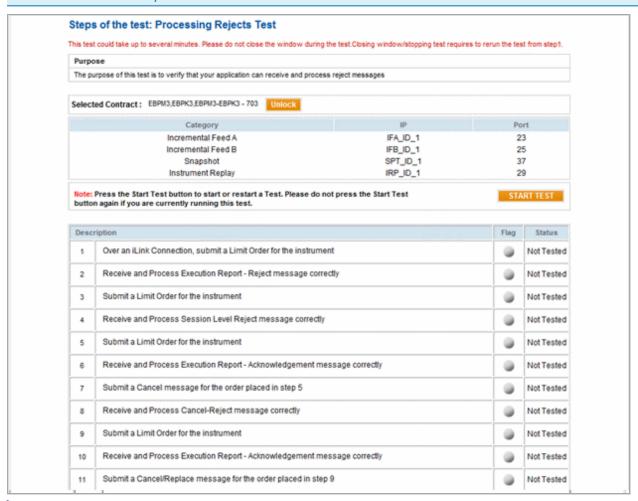
Additional Processing tests include the following:

- Processing Rejects

- Additional Tags

- Duplicate Order ID

Processing Rejects

This test verifies that you can receive and process various reject messages.

Note: This test is mandatory.

▷ **To run a processing rejects test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit order for the instrument.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Reject message correctly.

5. Submit a Limit order for the instrument.

6. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Session Level Reject message correctly.

7. Submit a Limit order for the instrument.

8. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Business Level Reject message correctly.

9. Submit a Limit order for the instrument.

10. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Confirmation/Acknowledgment message correctly.
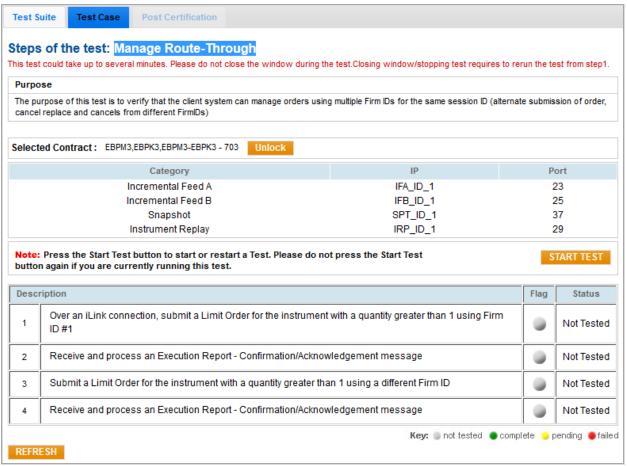
11. Submit an Order Cancel Request for the order placed in step 7 on the AutoCert + screen.

12. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Order Cancel Reject message correctly.

13. Submit an Order Cancel/Replace Request for the order placed in step 7 on the AutoCert + screen.

14. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Order Cancel Reject message correctly.

15. Submit a Heartbeat message.

Additional Tags

The test verifies that you can receive and process messages containing tags that are not part of the iLink specifications, but are part of the FIX specifications.

Test Suite	Test Case	Post Certification

Steps of the test: Process Additional Tags

This test could take up to several minutes. Please do not close the window during the test.Closing window/stopping test requires to rerun the test from step1.

Purpose
The purpose of this test is to verify that the client system can receive and process messages containing tags that are not part of iLink specs (but part of FIX specs)

Selected Contract : EBPM3,EBPK3,EBPM3-EBPK3 - 703   **Unlock**

Category	IP	Port
Incremental Feed A	IFA_ID_1	23
Incremental Feed B	IFB_ID_1	25
Snapshot	SPT_ID_1	37
Instrument Replay	IRP_ID_1	29

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.   **START TEST**

	Description	Flag	Status
1	Over an iLink connection, submit a Limit Order for the instrument	⚪	Not Tested
2	Receive and process an Execution Report-Confirmation/Acknowledgement message	⚪	Not Tested
3	Receive and process an Execution Report-Fill Notice message	⚪	Not Tested

Key: ⚪ not tested ● complete ● pending ● failed

REFRESH

▷   **To run an additional tags test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   > **Note**: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit order for the instrument.

4. Enter the values from the following tags to confirm that your system received and processed the Execution Report - Confirmation/Acknowledgment message.

   - Additional tag 61
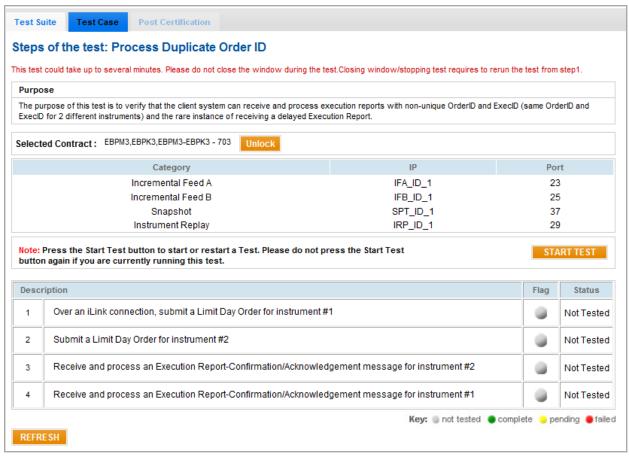
   - Additional tag 106

	Receive and process an Execution Report-Confirmation/Acknowledgement message	
2	Additional Tag 61 : [＿＿＿＿] Additional Tag 106 : [＿＿＿＿] **Submit**	🟡

5. Enter the values from the following tags to confirm that your system received and processed the Execution Report - Fill Notice message.

   - Additional tag 61

   - Additional tag 106

	Receive and process an Execution Report-Fill Notice message	
3	Additional Tag 61 : [＿＿＿＿] Additional Tag 106 : [＿＿＿＿] **Submit**	🟡

Duplicate Order ID

This test verifies that you can receive and process execution reports with a non-unique OrderID and ExecID (same OrderID and ExecID for 2 different instruments). Also, this test determines whether your system can manage the rare occurrence of a delayed Execution Report.

Test Suite **Test Case** Post Certification

Steps of the test: Process Duplicate Order ID

This test could take up to several minutes. Please do not close the window during the test.Closing window/stopping test requires to rerun the test from step1.

Purpose
The purpose of this test is to verify that the client system can receive and process execution reports with non-unique OrderID and ExecID (same OrderID and ExecID for 2 different instruments) and the rare instance of receiving a delayed Execution Report.

Selected Contract : EBPM3,EBPK3,EBPM3-EBPK3 - 703 **Unlock**

Category	IP	Port
Incremental Feed A	IFA_ID_1	23
Incremental Feed B	IFB_ID_1	25
Snapshot	SPT_ID_1	37
Instrument Replay	IRP_ID_1	29

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test. **START TEST**

	Description	Flag	Status
1	Over an iLink connection, submit a Limit Day Order for instrument #1	●	Not Tested
2	Submit a Limit Day Order for instrument #2	●	Not Tested
3	Receive and process an Execution Report-Confirmation/Acknowledgement message for instrument #2	●	Not Tested
4	Receive and process an Execution Report-Confirmation/Acknowledgement message for instrument #1	●	Not Tested

Key: ● not tested ● complete ● pending ● failed

REFRESH

▷ **To run a duplicate order ID test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit Day order for instrument #1.

4. Submit a Limit Day order for instrument #2.

5. Enter the values from the following tags to confirm that your system received and processed the Execution Report - Confirmation/Acknowledgment message for instrument #2.

   - Tag 17-ExecID
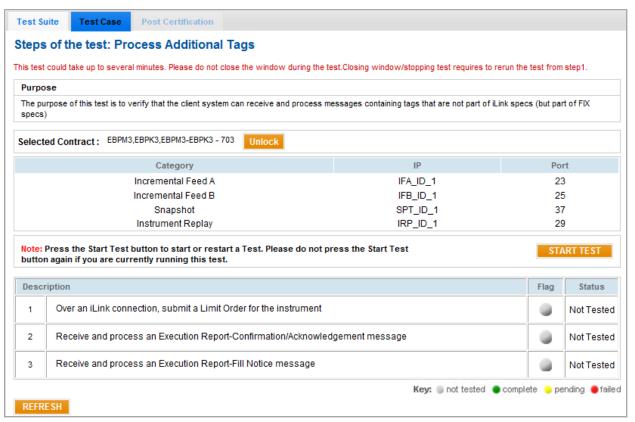   - Tag 37-OderID

	Receive and process an Execution Report-Confirmation/Acknowledgement message for instrument #2	
3	ExecID : [ ] OrderID : [ ] **Submit**	●

6. Enter the values from the following tags to confirm that your system received and processed the Execution Report - Confirmation/Acknowledgment message for instrument #1.

- Tag 17-ExecID

- Tag 37-OderID

Session Management Tests

-

Logon Tests

Logon tests consist of the following:
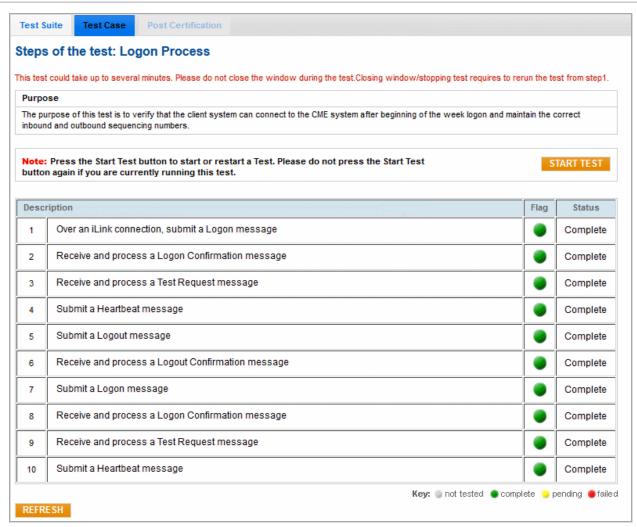
- Logon Process
- Beginning of Week Logon
- Logon Process Mid Week

Logon Process

This test verifies that your system can connect to the CME Group system after the beginning of the week logon and maintain the correct inbound and outbound sequencing numbers. This test also verifies that:

- The client system clock is synchronized with the CME Group clock.

- The client system can receive and process a delayed Logon Confirmation message.

    Note: This test is mandatory for all customers.

Test Suite   **Test Case**   Post Certification

Steps of the test: Logon Process

This test could take up to several minutes. Please do not close the window during the test.Closing window/stopping test requires to rerun the test from step1.

Purpose
The purpose of this test is to verify that the client system can connect to the CME system after beginning of the week logon and maintain the correct inbound and outbound sequencing numbers.

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.   **START TEST**

	Description	Flag	Status
1	Over an iLink connection, submit a Logon message	🟢	Complete
2	Receive and process a Logon Confirmation message	🟢	Complete
3	Receive and process a Test Request message	🟢	Complete
4	Submit a Heartbeat message	🟢	Complete
5	Submit a Logout message	🟢	Complete
6	Receive and process a Logout Confirmation message	🟢	Complete
7	Submit a Logon message	🟢	Complete
8	Receive and process a Logon Confirmation message	🟢	Complete
9	Receive and process a Test Request message	🟢	Complete
10	Submit a Heartbeat message	🟢	Complete

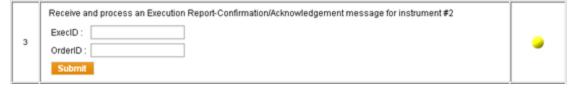**Key:** ⚪ not tested 🟢 complete 🟡 pending 🔴 failed

REFRESH

▷ **To run a logon process test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Logon (35=A) message.

   Note: Messages sent before the Logon Confirmation (35=A) message is sent will cause the test to fail.

4. Receive and process a Logon Confirmation (35=A) message.

5. CME Group sends a Test Request (35=1) message.

6. Submit a Heartbeat (35=0) message.
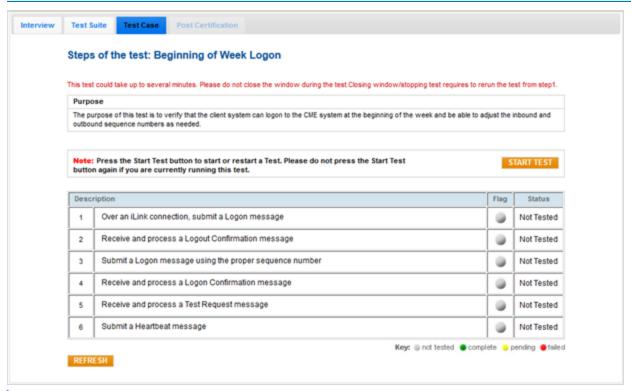
   Note: If Tag 112-TestReqID in the Heartbeat message is not identical to Tag 112-TestReqID in the Test Request message, the issue must be resolved and you must restart the test.

7. Submit a Logout (35=5) message.

8. Receive and process a Test Request (35=1) message.

9. Submit a Heartbeat (35=0) message.

Beginning of Week Logon

The Beginning of Week Logon test verifies that your system can logon to the CME Group system at the beginning of the week and maintain the correct inbound and outbound sequence numbers (tag 34-MsgSeqNum).

Note: This test is mandatory for all client systems.

▷ **To run a Beginning of Week Logon test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note:DO NOT select the **"START TEST"** button once the test process is in progress.

3. Submit a Logon (tag 35-MsgType=A) message with a sequence number (tag 34-MsgSeqNum) greater than 1.

4. Select "**Yes**" or "**No** to indicate whether or not your system received and processed a Logout Confirmation (35=5) message with tag 789-NextExpectedMsgSeqNum.

   Note: There should only be **ONE** logon attempt up to this point in the test. If more than one logon attempt is made by the client system, the test will be failed.

5. Submit a Logon (35=A) message using the proper sequence number (tag 34-MsgSeqNum).

   Note: If more than one logon attempt is made by the client system, the test will be marked as failed.

6. Select "**Yes**" or "**No** to indicate whether or not your system received and processed a Logon Confirmation (35=A) message.

7. Select "**Yes**" or "**No** to indicate whether or not your system received and processed a Test Request (35=1) message.

8. Submit a Heartbeat (35=0) message.

Logon Process Mid Week

The Logon Process Mid Week test verifies that your system can connect to the CME Group system during the week and maintain the correct inbound and outbound sequence numbers (tag 34-MsgSeqNum).

Note: This test is mandatory for all client systems.

▷   **To run a logon process test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Logon (tag 35-MsgType=A) message .

4. Select "**Yes**" or "**No** to indicate whether or not your system received and processed a Logout Confirmation (35=5) message with tag 789-NextExpectedMsgSeqNum.

   Note: There should only be **ONE** logon attempt up to this point in the test. If more than one logon attempt is made by the client system, the test will be failed.

5. Submit a Logon (35=A) message using the proper sequence number (tag 34-MsgSeqNum).

   Note: If more than one logon attempt is made by the client system, the test will be marked as failed.

6. Select "**Yes**" or "**No** to indicate whether or not your system received and processed a Logon Confirmation (35=A) message.

7. Select "**Yes**" or "**No** to indicate whether or not your system received and processed a Test Request (35=1) message.

8. Submit a Heartbeat message.

Verify Test Request Procedure/Methodology

This test verifies that your system reacts correctly during an interruption of service with CME Group.

Note: This test is mandatory for all customers.
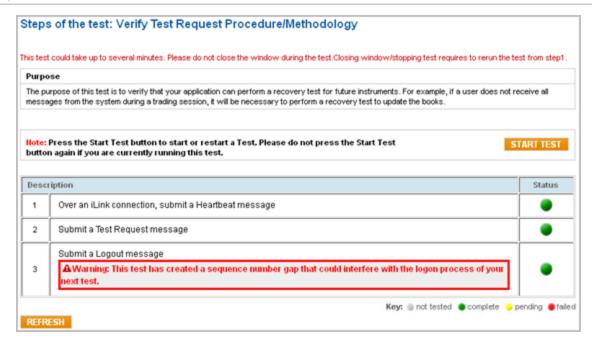
  ▷ **To run a verify test request procedure/methodology test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Heartbeat (35=0) message.

4. Submit a Test Request (35=1) message.

5. Submit another Test Request message.

6. Submit a Logout (35=5) message.
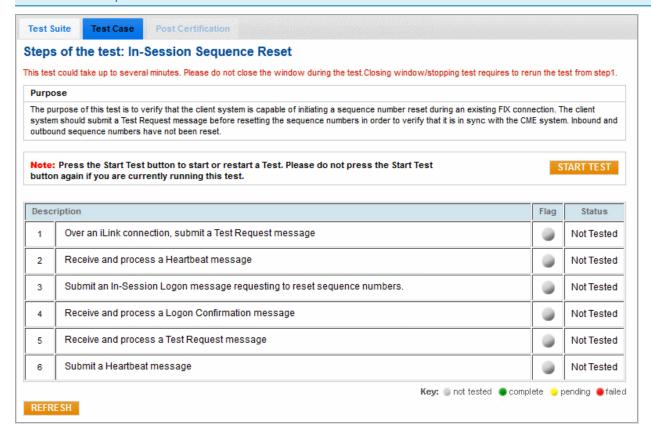
   Note: This test will create a sequence number gap that could interfere with the logon process for your next test.

Steps of the test: Verify Test Request Procedure/Methodology

This test could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to rerun the test from step1.

Purpose

The purpose of this test is to verify that your application can perform a recovery test for future instruments. For example, if a user does not receive all messages from the system during a trading session, it will be necessary to perform a recovery test to update the books.

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.

START TEST

	Description	Status
1	Over an iLink connection, submit a Heartbeat message	●
2	Submit a Test Request message	●
3	Submit a Logout message ⚠ Warning: This test has created a sequence number gap that could interfere with the logon process of your next test.	●

Key: ○ not tested ● complete ○ pending ● failed

REFRESH

In-Session Sequence Reset

This test verifies that your system is capable of initiating a sequence number reset during an existing FIX session. Your system must submit a Test Request message before resetting the sequence numbers in order to verify that it is synchronized with CME Group. Inbound and outbound sequence numbers have not been reset.

Note: This test is optional for all customers.

Test Suite	**Test Case**	Post Certification

Steps of the test: In-Session Sequence Reset

This test could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to rerun the test from step1.

Purpose

The purpose of this test is to verify that the client system is capable of initiating a sequence number reset during an existing FIX connection. The client system should submit a Test Request message before resetting the sequence numbers in order to verify that it is in sync with the CME system. Inbound and outbound sequence numbers have not been reset.

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.

START TEST

	Description	Flag	Status
1	Over an iLink connection, submit a Test Request message	○	Not Tested
2	Receive and process a Heartbeat message	○	Not Tested
3	Submit an In-Session Logon message requesting to reset sequence numbers.	○	Not Tested
4	Receive and process a Logon Confirmation message	○	Not Tested
5	Receive and process a Test Request message	○	Not Tested
6	Submit a Heartbeat message	○	Not Tested

Key: ○ not tested ● complete ○ pending ● failed

REFRESH

▷ **To run an in-session sequence reset test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   > **Note**: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Test Request (35-MsgType=1) message.

4. Select "**Yes**" or "**No** to indicate whether or not your system received and processed the Heartbeat (35=0) message.

5. Submit a Logon message requesting a sequence number reset.

6. Select "**Yes**" or "**No** to indicate whether or not your system received and processed a Logon Confirmation message.

7. Select "**Yes**" or "**No** to indicate whether or not your system received and processed a Test Request message (35=1, 34=2).

8. Submit a Heartbeat (35=0) message.

Sequencing Tests

Sequencing Tests consist of the following:

- [Detect a Gap and Receive a Gap Fill](#)

- [Respond to Resend Request](#)

- [Bi-Directional Resend Request](#)

- [Bi-Directional Sequence Reset - Gap Fill](#)

- [Receiving and Processing Multiple Gaps](#)

- [Processing Message Gaps of More than 2500 Messages](#)
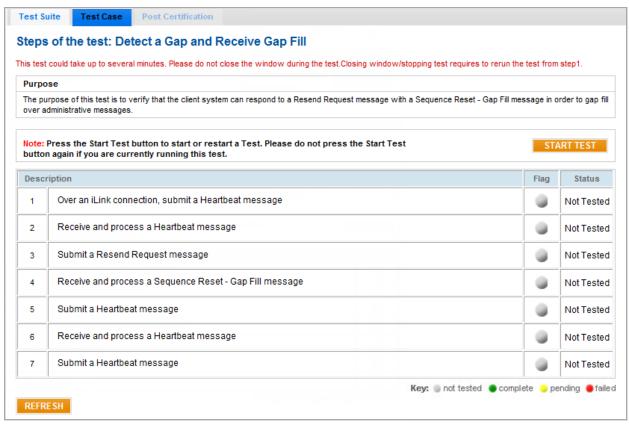
Introduction to Sequencing Tests

The Sequence Tests focus on managing message sequence numbers. These tests determine if your system can determine a gap and receive a gap fill, respond to resend requests, receive and process multiple gaps, manage more than 2500 messages and reset sequence numbers.

- [Detect a Gap and Receive a Gap Fill](#)

- [Respond to Resend Request](#)

- [Bi-Directional Resend Request](#)

- [Bi-Directional Sequence Reset - Gap Fill](#)

- [Receiving and Processing Multiple Gaps](#)

- [Processing Message Gaps of More than 2500 Messages](#)

Detect a Gap and Receive Gap Fill

This test verifies that your system can respond to a Resend Request message with a Sequence Reset - Gap Fill message in order to gap fill administrative messages.

Test Suite | **Test Case** | Post Certification

Steps of the test: Detect a Gap and Receive Gap Fill

This test could take up to several minutes. Please do not close the window during the test.Closing window/stopping test requires to rerun the test from step1.

Purpose
The purpose of this test is to verify that the client system can respond to a Resend Request message with a Sequence Reset - Gap Fill message in order to gap fill over administrative messages.

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.

START TEST

	Description	Flag	Status
1	Over an iLink connection, submit a Heartbeat message	⚪	Not Tested
2	Receive and process a Heartbeat message	⚪	Not Tested
3	Submit a Resend Request message	⚪	Not Tested
4	Receive and process a Sequence Reset - Gap Fill message	⚪	Not Tested
5	Submit a Heartbeat message	⚪	Not Tested
6	Receive and process a Heartbeat message	⚪	Not Tested
7	Submit a Heartbeat message	⚪	Not Tested

Key: ⚪ not tested 🟢 complete 🟡 pending 🔴 failed

REFRESH

▷ **To run a "detect a gap and receive a gap fill" test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Heartbeat (35=0) message.

4. Receive and process a Heartbeat (35=0) message. There should be a gap in sequence numbers.

5. Submit a Resend Request message (35=2).

6. Receive and process a Sequence Reset - Gap Fill message.

7. Submit a Heartbeat (35=0) message.

8. Receive and process a Heartbeat (35=0) message.

9. Submit a Heartbeat (35=0) message.

   Note: If a Resend Request is sent after step 4 on the AutoCert+ screen, the test will be failed and must be restarted.

Respond to Resend Request
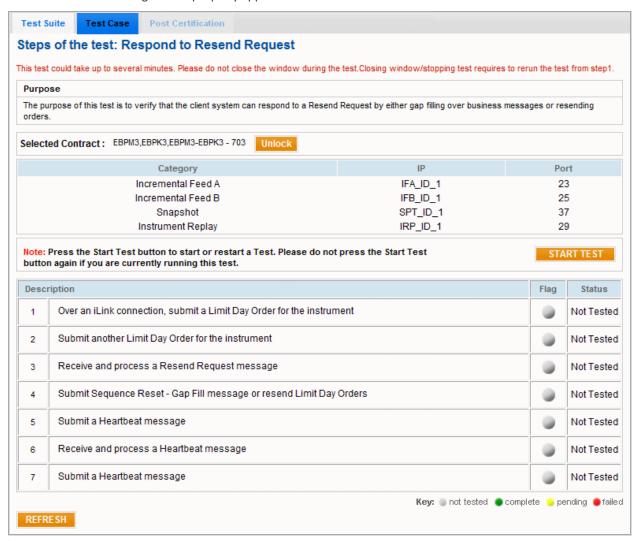
This test verifies that your system can respond to a Resend Request by either gap filling over business messages or resending orders.

For resend requests on CME Globex, two types of resend logic are currently supported:

- Basic FIX Resend Logic - standard FIX protocol resend request logic, which is NOT RECOMMENDED.

- Enhanced CME Globex Resend Logic - additional resend logic beyond that defined in the FIX protocol to facilitate rapid recovery in high transaction-per-second (TPS) scenarios which is HIGHLY RECOMMENDED.

For more details on resend logic, refer to the Session Layer - Resend Request topic of the Client Systems Wiki.

In this scenario, the client system receives two resend requests, one for each order sent, simulating a gap continuation. If enhanced CME Globex resend logic is used, the second resend request will be a duplicate of the first and will include tag 43-PossDupFlag and the client system should ignore the duplicate resend request. If basic resend logic is used, the client system should ignore the second resend request in order to avoid an infinite loop (Gap Continuation) on CME Globex. The test will be marked as failed if this logic is not properly applied.

| | Test Suite | Test Case | Post Certification |

Steps of the test: Respond to Resend Request

This test could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to rerun the test from step1.

Purpose

The purpose of this test is to verify that the client system can respond to a Resend Request by either gap filling over business messages or resending orders.

Selected Contract: EBPM3,EBPK3,EBPM3-EBPK3 - 703 [Unlock]

Category	IP	Port
Incremental Feed A	IFA_ID_1	23
Incremental Feed B	IFB_ID_1	25
Snapshot	SPT_ID_1	37
Instrument Replay	IRP_ID_1	29

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test. [START TEST]

	Description	Flag	Status
1	Over an iLink connection, submit a Limit Day Order for the instrument	⚪	Not Tested
2	Submit another Limit Day Order for the instrument	⚪	Not Tested
3	Receive and process a Resend Request message	⚪	Not Tested
4	Submit Sequence Reset - Gap Fill message or resend Limit Day Orders	⚪	Not Tested
5	Submit a Heartbeat message	⚪	Not Tested
6	Receive and process a Heartbeat message	⚪	Not Tested
7	Submit a Heartbeat message	⚪	Not Tested

Key: ⚪ not tested 🟢 complete 🟡 pending 🔴 failed

[REFRESH]

▷ **To run a respond to resend request test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit order for the instrument.

4. Submit another Limit Day order for the instrument.

5. Receive and process a Resend Request message.

   Note: If the client system uses enhanced resend logic (tag 369-LastMsgSeqNumProcessed for both orders), the second request will be a duplicate of the first and will include tag 43-PossDupFlag.

6. Submit a Sequence Reset - Gap Fill message.

   or

   Resend both orders to respond to the resend requests.

   The Gap Fill message requires tag 123-GapFillFlag , and refer tag 122-OrigSendingTime to the resend request.
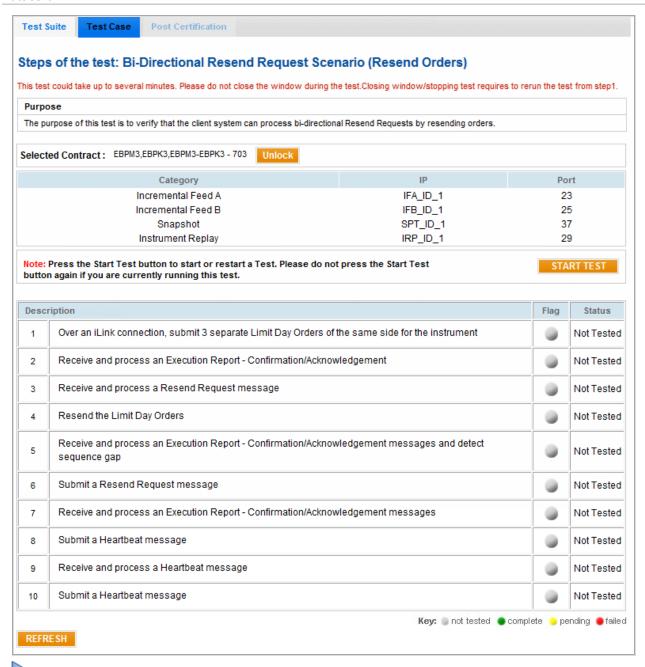
   Note: In order to resend an order, include tag 43 PossDupFlag and refer tag 122 OrigSendingTime to the previous order.

7. Submit a Heartbeat message.

8. Receive and process a Heartbeat message.

9. Submit a Heartbeat message.

   Note: If a Resend Request is sent, the test will be failed and must be restarted.

Bi-Directional Resend Request

This test verifies that your system can process a bi-directional resend request.

Test Suite Test Case Post Certification

Steps of the test: Bi-Directional Resend Request Scenario (Resend Orders)

This test could take up to several minutes. Please do not close the window during the test.Closing window/stopping test requires to rerun the test from step1.

Purpose
The purpose of this test is to verify that the client system can process bi-directional Resend Requests by resending orders.

Selected Contract : EBPM3,EBPK3,EBPM3-EBPK3 - 703 **Unlock**

Category	IP	Port
Incremental Feed A	IFA_ID_1	23
Incremental Feed B	IFB_ID_1	25
Snapshot	SPT_ID_1	37
Instrument Replay	IRP_ID_1	29

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test. **START TEST**

	Description	Flag	Status
1	Over an iLink connection, submit 3 separate Limit Day Orders of the same side for the instrument	●	Not Tested
2	Receive and process an Execution Report - Confirmation/Acknowledgement	●	Not Tested
3	Receive and process a Resend Request message	●	Not Tested
4	Resend the Limit Day Orders	●	Not Tested
5	Receive and process an Execution Report - Confirmation/Acknowledgement messages and detect sequence gap	●	Not Tested
6	Submit a Resend Request message	●	Not Tested
7	Receive and process an Execution Report - Confirmation/Acknowledgement messages	●	Not Tested
8	Submit a Heartbeat message	●	Not Tested
9	Receive and process a Heartbeat message	●	Not Tested
10	Submit a Heartbeat message	●	Not Tested

Key: ● not tested ● complete ● pending ● failed

REFRESH

▷ **To run a bi-directional resend request test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.
2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit three separate Limit Day orders for the instrument.
4. Receive and process an Execution Report - Confirmation/Acknowledgment message for order #1.
5. Receive and process a Resend Request (35=2).
6. Resend Limit Day order #2 and order #3.

7. Receive and process an Execution Report - Confirmation/Acknowledgment message for order #3 and detect the sequence gap.

8. Submit a Resend Request message.

9. Receive and process an Execution Report - Confirmation/Acknowledgment message for order #2.

10. Submit a Heartbeat message.

11. Receive and process a Heartbeat message.

12. Submit a Heartbeat message.

Note: If a Resend Request is sent after step 7 on the AutoCert+ screen, the test will be marked as failed and must be restarted.

Bi-Directional Sequence Reset - Gap Fill

This test verifies that your system can process bi-directional Resend Request messages by sending a Sequence Reset - Gap Fill message.

Test Suite | **Test Case** | Post Certification

Steps of the test: Bi-Directional Resend Request Scenario (Sequence Reset - Gap Fill)

This test could take up to several minutes. Please do not close the window during the test.Closing window/stopping test requires to rerun the test from step1.

Purpose
The purpose of this test is to verify that the client system can process bi-directional Resend Request messages by sending a Sequence Reset-Gap Fill message.

Selected Contract : EBPM3,EBPK3,EBPM3-EBPK3 - 703 [Unlock]

Category	IP	Port
Incremental Feed A	IFA_ID_1	23
Incremental Feed B	IFB_ID_1	25
Snapshot	SPT_ID_1	37
Instrument Replay	IRP_ID_1	29

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.   [START TEST]

	Description	Flag	Status
1	Over an iLink connection, submit 4 separate Limit Day Orders for the instrument	⚪	Not Tested
2	Receive and process an Execution Report - Confirmation/Acknowledgement messages and detect sequence gap	⚪	Not Tested
3	Submit a Resend Request message	⚪	Not Tested
4	Receive and process an Execution Report - Confirmation/Acknowledgement messages	⚪	Not Tested
5	Receive and process a Resend Request message	⚪	Not Tested
6	Submit a Sequence Reset - Gap fill message	⚪	Not Tested
7	Submit a Heartbeat message	⚪	Not Tested
8	Receive and process a Heartbeat message	⚪	Not Tested
9	Submit a Heartbeat message	⚪	Not Tested

Key: ⚪ not tested 🟢 complete 🟡 pending 🔴 failed

[REFRESH]

▷ **To run a bi-directional sequence reset - gap fill test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

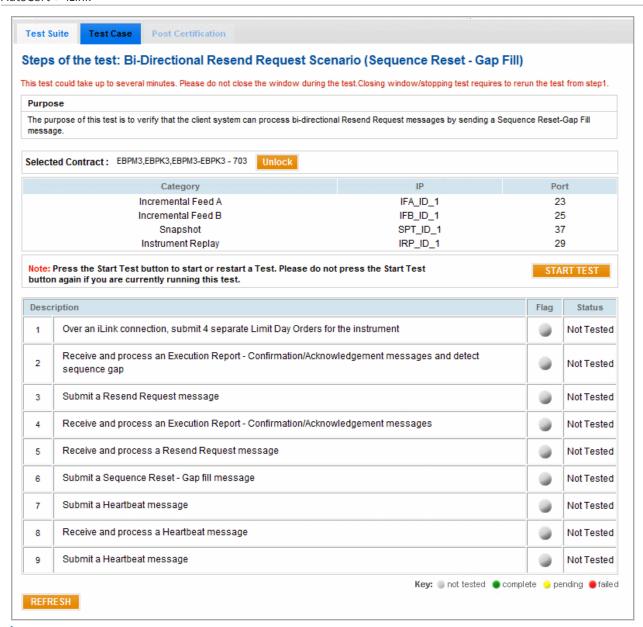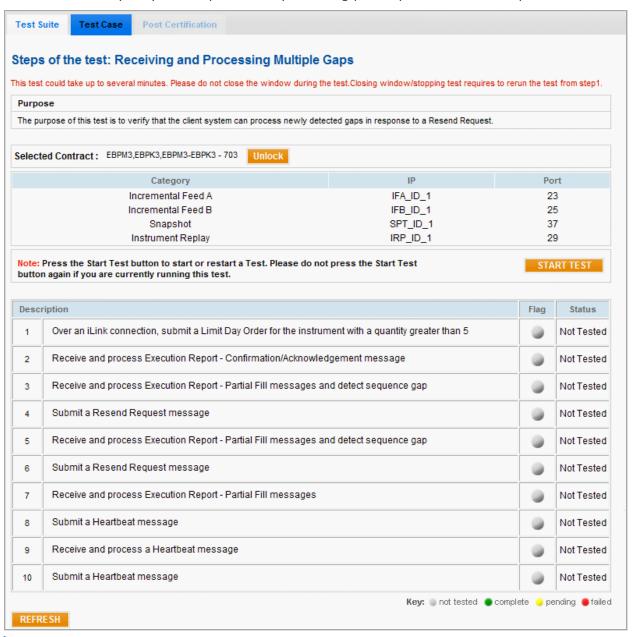   **Note**: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit 4 separate Limit Day orders for the instrument.

4. Receive and process an Execution Report - Confirmation/Acknowledgment message and detect the sequence gap.

5. Submit a Resend Request message for the Acknowledgment for order #1.

6. Receive and process an Execution Report - Confirmation/Acknowledgment message for order #1.

7. Receive and process a Resend Request message for order #3.

8. Submit a Sequence Reset - Gap Fill message.

9. Submit a Heartbeat message.

10. Receive and process a Heartbeat message.

11. Submit a Heartbeat message.

Note: If a Resend Request is sent after step 4 on the AutoCert+ screen, the test will be failed and must be restarted.

Receiving and Processing Multiple Gaps

This test verifies that your system can process newly detected gaps in response to a Resend Request.

Test Suite	**Test Case**	Post Certification

Steps of the test: Receiving and Processing Multiple Gaps

This test could take up to several minutes. Please do not close the window during the test.Closing window/stopping test requires to rerun the test from step1.

Purpose
The purpose of this test is to verify that the client system can process newly detected gaps in response to a Resend Request.

Selected Contract : EBPM3,EBPK3,EBPM3-EBPK3 - 703   **Unlock**

Category	IP	Port
Incremental Feed A	IFA_ID_1	23
Incremental Feed B	IFB_ID_1	25
Snapshot	SPT_ID_1	37
Instrument Replay	IRP_ID_1	29

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.   **START TEST**

	Description	Flag	Status
1	Over an iLink connection, submit a Limit Day Order for the instrument with a quantity greater than 5	⚪	Not Tested
2	Receive and process Execution Report - Confirmation/Acknowledgement message	⚪	Not Tested
3	Receive and process Execution Report - Partial Fill messages and detect sequence gap	⚪	Not Tested
4	Submit a Resend Request message	⚪	Not Tested
5	Receive and process Execution Report - Partial Fill messages and detect sequence gap	⚪	Not Tested
6	Submit a Resend Request message	⚪	Not Tested
7	Receive and process Execution Report - Partial Fill messages	⚪	Not Tested
8	Submit a Heartbeat message	⚪	Not Tested
9	Receive and process a Heartbeat message	⚪	Not Tested
10	Submit a Heartbeat message	⚪	Not Tested

Key: ⚪ not tested 🟢 complete 🟡 pending 🔴 failed

REFRESH

▷   **To run a receiving and processing multiple gaps test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.
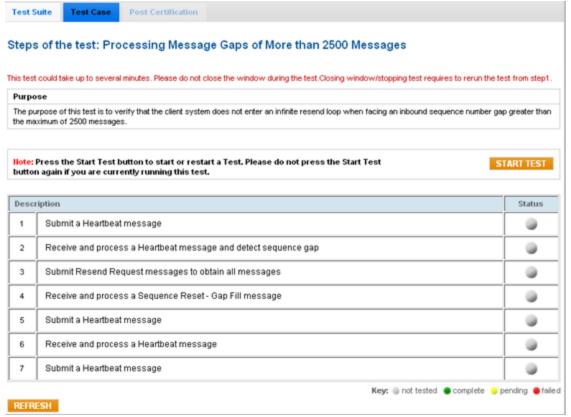
2. Click the "**START TEST**" button.

> **Note**: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Limit Day order with an order quantity of five for the instrument.

4. Select "**Yes**" or "**No** to indicate whether or not your system received and processed an Execution Report - Order Confirmation (35=8) message.

5. Select "**Yes**" or "**No** to indicate whether or not your system received and processed four Execution Report - Partial Fill (35=8) messages and detected the sequence gap.

6. Submit a Resend Request (35=2) message.

7. Select "**Yes**" or "**No** to indicate whether or not your system received and processed 3 Execution Report - Partial Fill messages (35=8) messages and detected a sequence gap.

8. Submit a Resend Request (35=2) message.

9. Receive and process 3 Execution Report - Partial Fill (35=8) messages.

10. Submit a Heartbeat message.

11. Receive and process a Heartbeat message.

12. Submit a Heartbeat message.

> **Note:** If a Resend Request is sent after step 7 on the AutoCert+ screen, the test will be failed and must be restarted.

Process Message Gaps of More than 2500 Messages

This test verifies that your system does not enter an infinite resend loop when facing an inbound sequence number gap greater than the maximum of 2500 messages.

▷ **To run a process message gaps of more than 2500 messages test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Heartbeat (35=0) message.

4. Receive and process a Heartbeat message. Detect the sequence gap.

5. Submit a Resend Request message to obtain all messages.

6. Receive and process a Sequence Reset - Gap Fill message.

7. Submit a Heartbeat message.

8. Receive and process a Heartbeat message.

9. Submit a Heartbeat message.

   Note: If a Resend Request is sent after step 4 on the AutoCert+ screen, the test will be failed and must be restarted.

Cross Message Tests

Cross Message tests consist of the following:

- [Request for Cross Message (Equity)](#)

- [Request for Cross Message (non-Equity)](#)
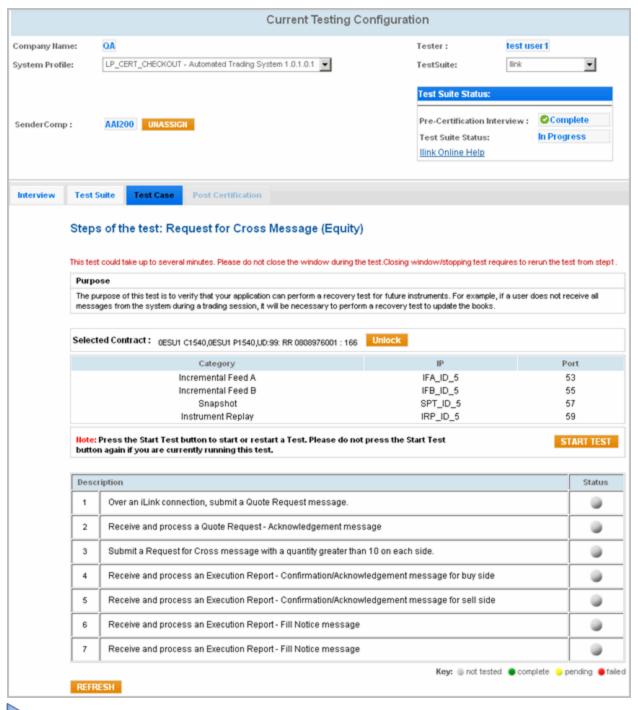
- [Request for Cross Rejection](#)

Request for Cross Message (Equity)

This test verifies that your system can submit a Request for Cross message for an Equity contract after waiting for the appropriate RFC window and processing Acknowledgments and Fills.

Note: This test is mandatory if you answered "**Yes**" to the Interview question: "Will your system support Cross Order functionality for Equity contracts?"

Note: For Equity contracts there is an RFC window of 5 seconds between the RFQ and an RFC message. If a client system sends the RFC message before the window is closed, the test will be failed.

Note:The CME Group-configured Broker Match Guarantee (BMG) percentage will be set to 100%.

To run a request for cross message (equity) test:

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Quote Request message for the instrument over an iLink connection.

   After the Quote Request message (35=R, 9943=1) is received, CME Group sends a Quote Request - Acknowledgment message (35=b).

> **Note**:Tag 9943 (Quote Type) = 1 [tradable].

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Quote Request - Acknowledgment message correctly.

5. Submit a Request for Cross (35=s, 549=3, 962=0) message with a quantity greater than 10 on each side.

> **Note**:Tag 549 (Cross Type) = 3 [cross executed with existing orders], and Tag 962 (SideTimeInForce) = 0 [keep on book].
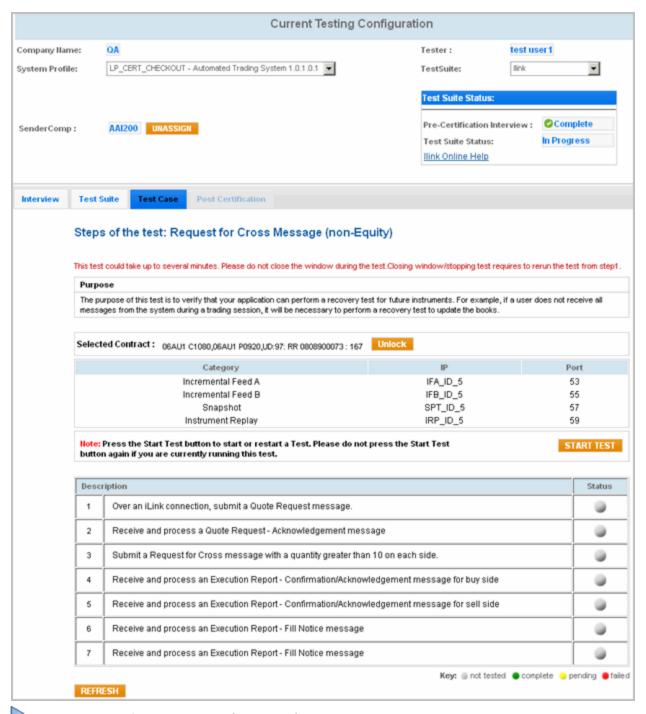
6. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Confirmation/Acknowledgment message for the buy side correctly.

7. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Confirmation/Acknowledgment message for the sell side correctly.

8. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report – Fill Notice [35=8, 39=1 (Partial fill)] message for the sell side correctly.

9. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report – Fill Notice [35=8, 39=1 (Partial fill)] message for the buy side correctly.

Request for Cross Message (non-Equity)

This test verifies that your system can submit a Request for Cross Message for a non-Equity contract after waiting for the appropriate RFC window and process Acknowledgments and Fills.

> **Note**: This test is mandatory if you answered "**Yes**" to the question: "Will your system support Cross Order functionality for contracts belonging to a product complex other than Equity?" in the Interview.

> **Note:** For non-Equity contracts there is an RFC window of 15 seconds between the RFQ and an RFC message. If your system sends the RFC message before the window is closed the test will be failed.

Current Testing Configuration

Company Name:	OA	Tester :	test user 1
System Profile:	LP_CERT_CHECKOUT - Automated Trading System 1.0.1.0.1	TestSuite:	llink

Test Suite Status:

Pre-Certification Interview :	✓ Complete
Test Suite Status:	In Progress
llink Online Help	

SenderComp : **AAI200** UNASSIGN

Interview | Test Suite | **Test Case** | Post Certification

Steps of the test: Request for Cross Message (non-Equity)

This test could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to rerun the test from step1.

Purpose

The purpose of this test is to verify that your application can perform a recovery test for future instruments. For example, if a user does not receive all messages from the system during a trading session, it will be necessary to perform a recovery test to update the books.

Selected Contract : 06AU1 C1080,06AU1 P0920,UD:97: RR 0808900073 : 167 **Unlock**

Category	IP	Port
Incremental Feed A	IFA_ID_5	53
Incremental Feed B	IFB_ID_5	55
Snapshot	SPT_ID_5	57
Instrument Replay	IRP_ID_5	59

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.   **START TEST**

Description		Status
1	Over an iLink connection, submit a Quote Request message.	⚪
2	Receive and process a Quote Request - Acknowledgement message	⚪
3	Submit a Request for Cross message with a quantity greater than 10 on each side.	⚪
4	Receive and process an Execution Report - Confirmation/Acknowledgement message for buy side	⚪
5	Receive and process an Execution Report - Confirmation/Acknowledgement message for sell side	⚪
6	Receive and process an Execution Report - Fill Notice message	⚪
7	Receive and process an Execution Report - Fill Notice message	⚪

Key: ⚪ not tested 🟢 complete 🟡 pending 🔴 failed

REFRESH

▶ **To run a request for cross message (non-equity) test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Quote Request [35=R, 9943=1 (tradable)] message for the instrument over an iLink connection.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Quote Acknowledgment (35=b) message correctly?
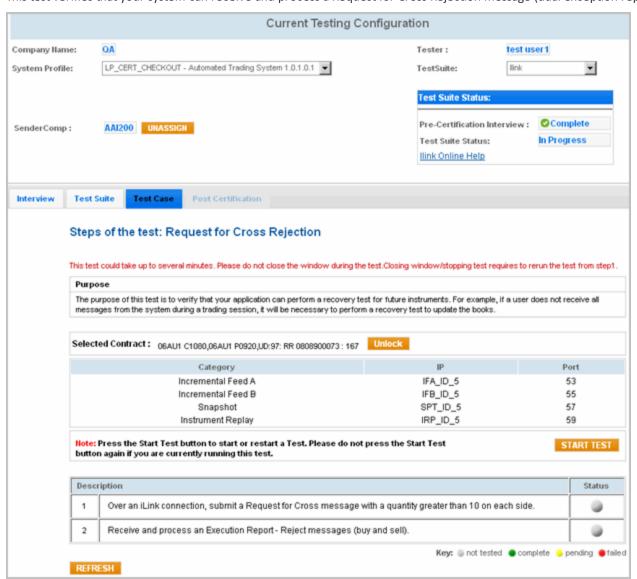
5. Submit a Request for Cross (35=s, 549=3, 962=0) message with a quantity greater than 10 on each side.

> **Note:** Tag 549 (Cross Type) = 3 [cross executed with existing orders], and tag 962-(SideTimeInForce) = 0 [keep on book].

6. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Confirmation/Acknowledgment message for the buy side correctly.

7. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Confirmation/Acknowledgment message for the sell side correctly.

8. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report – Fill Notice (35=8) message for the order (sell side) partial fill (1 lot, 39=1) correctly.

9. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report – Fill Notice (35=8) message for the order (buy side) partial fill (fill 1 lot, 39=1) correctly.

Request for Cross Rejection

This test verifies that your system can receive and process a Request for Cross Rejection message (dual exception reports).

▷ **To run a request for cross rejection test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Request for Cross (35=s, 549=3) message with a quantity greater than 10 on each side over an iLink connection.

4. Select "**Yes**" or "**No**" to indicate whether or not your system received and processed the Execution Report - Reject (35=j) messages for the buy and sell sides correctly.
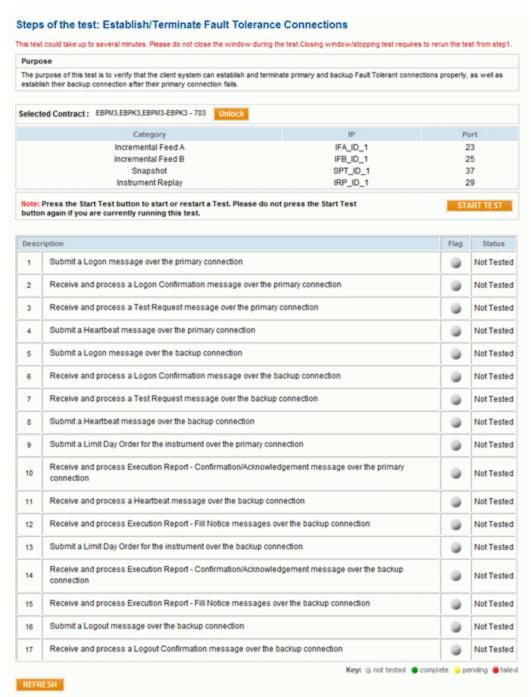
Establish/Terminate Fault Tolerance Connections

This test verifies that your system can establish and terminate primary and backup Fault Tolerant connections properly, as well as establish a backup connection after your primary connection fails.

Note: This test is mandatory if you answered "**Yes**" to the question, "Will your system support Fault Tolerance?" in the Interview.

Note: See the Client Systems Wiki for more information on Fault Tolerance and the Failover process.

Note:Fault Tolerance Indicator (FTI) refers to the rightmost character of Tag 49-SenderCompID. This character indicates the role of the client connection within the fault tolerant group.

Steps of the test: Establish/Terminate Fault Tolerance Connections

This test could take up to several minutes. Please do not close the window during the test.Closing window/stopping test requires to rerun the test from step1.

Purpose
The purpose of this test is to verify that the client system can establish and terminate primary and backup Fault Tolerant connections properly, as well as establish their backup connection after their primary connection fails.

Selected Contract : EBPM3,EBPK3,EBPM3-EBPK3 - 703   **Unlock**

Category	IP	Port
Incremental Feed A	IFA_ID_1	23
Incremental Feed B	IFB_ID_1	25
Snapshot	SPT_ID_1	37
Instrument Replay	IRP_ID_1	29

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.   **START TEST**

	Description	Flag	Status
1	Submit a Logon message over the primary connection	⬤	Not Tested
2	Receive and process a Logon Confirmation message over the primary connection	⬤	Not Tested
3	Receive and process a Test Request message over the primary connection	⬤	Not Tested
4	Submit a Heartbeat message over the primary connection	⬤	Not Tested
5	Submit a Logon message over the backup connection	⬤	Not Tested
6	Receive and process a Logon Confirmation message over the backup connection	⬤	Not Tested
7	Receive and process a Test Request message over the backup connection	⬤	Not Tested
8	Submit a Heartbeat message over the backup connection	⬤	Not Tested
9	Submit a Limit Day Order for the instrument over the primary connection	⬤	Not Tested
10	Receive and process Execution Report - Confirmation/Acknowledgement message over the primary connection	⬤	Not Tested
11	Receive and process a Heartbeat message over the backup connection	⬤	Not Tested
12	Receive and process Execution Report - Fill Notice messages over the backup connection	⬤	Not Tested
13	Submit a Limit Day Order for the instrument over the backup connection	⬤	Not Tested
14	Receive and process Execution Report - Confirmation/Acknowledgement message over the backup connection	⬤	Not Tested
15	Receive and process Execution Report - Fill Notice messages over the backup connection	⬤	Not Tested
16	Submit a Logout message over the backup connection	⬤	Not Tested
17	Receive and process a Logout Confirmation message over the backup connection	⬤	Not Tested

Key: ⬤ not tested ⬤ complete ⬤ pending ⬤ failed

REFRESH

▷ **To run an establish/terminate fault tolerance connections test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a Logon (35=A, FTI=U) message on Connection A.

4. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Logon Confirmation (35=A, FTI=P) message on Connection A correctly.

5. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Test Request (35=1, FTI=P) message on Connection A.

6. Submit a Heartbeat (35=0, FTI=P) message on Connection A.

7. Submit a Logon (FTI=U) message on Connection B.

8. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Logon Confirmation (FTI=B) message on Connection B correctly.

9. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Test Request (FTI=B) message on Connection B.

10. Submit a Heartbeat (FTI=B) message on Connection B.

    Note:If the Heartbeat message contains any value other than 'B' for the FTI, a Session Level Reject (35=3) message will be generated and the test will be failed.

11. Submit a Limit Day Order message (35=D, FTI=P) with a quantity greater than 10 on Connection A.

12. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Confirmation/Acknowledgment message on Connection A.

    CME Group sends a Heartbeat message (FTI=P) on Connection B.

13. Determine if your system processed the Heartbeat (35=0, FTI=P) message on connection B.

14. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Fill Notice (FTI=P) message on Connection B correctly.

15. Submit a Limit Day Order (FTI=P) message for the instrument with a quantity greater than 10 on Connection B.

16. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Confirmation/Acknowledgment (FTI=P) message on Connection B correctly.

17. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Execution Report - Fill Notice (FTI=P) messages on Connection B correctly.

18. Submit a Logout message on Connection B.

19. Select "**Yes**" or "**No**" to indicate whether or not your system processed the Logout Confirmation message correctly.

Manual Order Indicator Tests
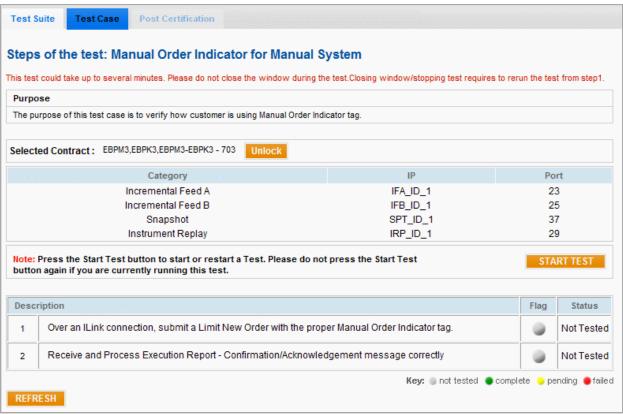
Manual Order Indicator tests consist of the following:

- Manual Order Indicator for Manual System
- Manual Order Indicator for ATS System
- Manual Order Indicator for Semi Automated System

Manual Order Indicator for Manual System

This test verifies that a client system can submit an order with the Manual Order Indicator tag set to "Y."

Note: This test is mandatory if you selected "**Manual**" for the question, "How will your system send orders?" in the Interview.

▷ **To run a manual order indicator for manual system certification test:**
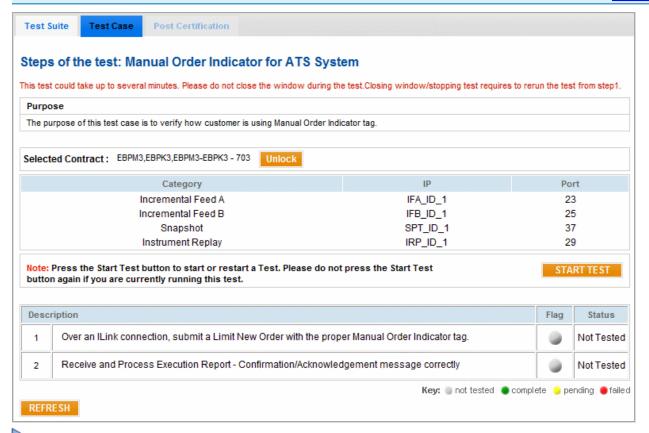
1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.
2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a New Order (35=D) message with tag 1028-ManualOrderIndicator over an iLink connection.
4. Select "**Yes**" or "**No**" to indicate whether or not your system received and processed the Execution Report - Confirmation/Acknowledgment message correctly.

Manual Order Indicator for ATS System

This test verifies that a client system can submit an order with the Manual Order Indicator tag set to "N."

Note: This test is mandatory if you selected "ATS" for the question, "How will your system send orders?" in the Interview.

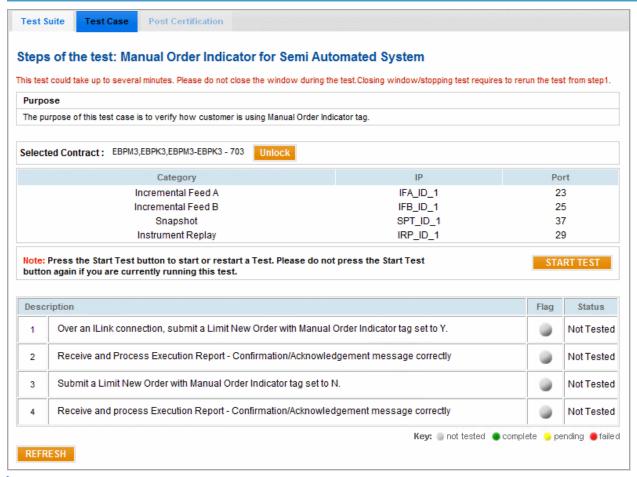▷ **To run the manual order indicator for ATS system certification test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.
2. Click the "**START TEST**" button.

   Note: **DO NOT** select the **"START TEST"** button once the test process is in progress.

3. Submit a New Order (35=D) message with tag 1028-ManualOrderIndicator over an iLink connection.
4. Select "**Yes**" or "**No**" to indicate whether or not your system received and processed the Execution Report - Confirmation/Acknowledgment message correctly.

Manual Order Indicator for Semi Automated System

This test verifies that a client system can submit both a manual order and an ATS order.

Note: This test is mandatory if you selected "Semi Automated" for the Interview question, "How will your system send orders?"

▷ **To run the manual order indicator for semi automated system certification test:**

1. From the **Contract** drop-down, select the desired contract if the contract is not already locked.

2. Click the "**START TEST**" button.

   Note: **DO NOT** select the "**START TEST**" button once the test process is in progress.

3. Submit a New Order (35=D) message for a manual order with tag 1028-ManualOrderIndicator over an iLink connection.

4. Select "**Yes**" or "**No**" to indicate whether or not your system received and processed the Execution Report - Confirmation/Acknowledgment message correctly.

5. Submit a New Order (35=D) message for an automated order with tag 1028-ManualOrderIndicator over an iLink connection.

6. Select "**Yes**" or "**No**" to indicate whether or not your system received and processed the Execution Report - Confirmation/Acknowledgment message correctly.

Appendix

The appendix contains the following sections:

- Definitions

Definitions

- **Fill and Kill (FAK) Order** - FAK orders are immediately executed against resting orders. Any quantity that remains unfilled is cancelled.

- **Fill or Kill (FOK) Order** - FOK orders are cancelled if not immediately filled for the total quantity at the specified price or better.

- **Give Up** - An order to be given to another member firm in the clearing system, an allocation. An order executed by clearing firm A and given to clearing firm B where it will be cleared and processed. Give up order indicator is "GU" populated in the F-Ex field.

- **Good Till Cancel (GTC) Order** - GTC orders remain open until they are completely executed or cancelled.

- **Good till Date (GTD) Order** - GTD orders expire either at a specified date or when the security expires.

- **In Flight Mitigation (IFM)** - Customers who use the IFM Cancel/Replace functionality are able to mitigate in flight fills and prevent overfilling.

- **Limit Order** - Limit orders allow customers to define the maximum price for buying a security or the minimum price for selling a security. Limit orders submitted for buying a security are executed at or below the limit price. Limit orders submitted for selling a security are executed at or above the limit price.

- **Market Limit Order** - Market Limit orders are executed at the best available price on the opposite side of the market. If the order cannot be completely filled, the order becomes a Limit order and the remaining quantity rests on the order book at the fill price. If no market is available, the order is rejected.

- **Market Order** - A Market order (with protection) has a protection range limiting the price at which an order can trade. Market orders (with protection) are assigned Protection Price Limits based upon pre-defined protection points and the best available price on the opposite side of the market.

- **Minimum Quantity** - Minimum quantity of an order to be executed. This tag can be used in conjunction with FAK.

- **Maximum Quantity Display** - Maximum quantity of an order to be shown in the order book to other customers at any given time.

- **Route-Through** - Route-Through allows firms to submit orders for clients, as well as other clearing members for whom the firm is authorized to do business. This occurs by changing the firm within the SenderCompID to the one assigned to another firm.

- **Stop Order** - A Stop order (with protection) has a protection range limiting the price at which an order can trade. When a Stop order (with protection) is triggered, it becomes a Limit order at the Protection Price Limit.

- **Stop Limit Order** - Stop Limit orders are activated when an order's trigger price is traded in the market. The order is executed at all price levels between the trigger price and the limit price. For buy orders, the trigger price is lower than the best available price on the opposite side of the market.